

## II.—*Coleopterological Notices.*

### III.

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Read October 5, 1891.

The most important contribution presented in the following paper, at least from a systematic standpoint, is a review of the Cistelidæ of the United States, but I feel only too fully that the discussion of the species of a local fauna, however complete and well intended it may be, can count but scarcely more than as a letter in the alphabet of a general monograph. In the absence of representatives from other parts of the earth, we labor to a great extent blindly in the delimitation of the higher groups, and in selecting proper structural characters for the differentiation of the genera.

For various reasons, however, the accumulation of the necessary material for a general revision of any family of Coleoptera, is now an exceedingly difficult matter, and this difficulty is, with the present system of museum management throughout the world, a constantly increasing one. Whether or not we are to have any more epoch-making monographs, is becoming largely a question for the museums to decide, for it is here that material is principally accumulating.

These reflections call to mind another feature of the case, in which this restrictive policy of the museums is to a great degree embarrassing, and which concerns us on this side of the Atlantic more particularly—I refer to the American types of Mannerheim, Mäklin, Eschscholtz, and Motschulsky. These are now reposing in extreme security within some almost inaccessible European museums, where they are practically never disturbed, but if transferred to an American museum where they could at least be occasionally examined by our working entomologists, it would be a vast aid to us and would be a loss scarcely at all appreciable to them. I go so far as to say that all satisfactory study on our part in certain directions is completely checked, because of the absence of these types; from an

equitable and reasonably liberal point of view they should be placed in our keeping, for the descriptions to which they answer are in general quite insufficient, and are often worse than useless from inaccuracy of statement.

After this short and I trust pardonable digression, it only remains to be said, that the present opportunity has been taken to publish the descriptions of some other more or less interesting species, mainly in the Longicornia and Heteromera.

NEW YORK, August 18, 1891.

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NOTE.

In a report of the proceedings of the Second Ornithological Congress (Nature, No. 1129, p. 153), it is stated that among other resolutions favorably passed upon was the "adoption of names, even faulty in construction or misspelt, with all the consequences." The phrase "*with all the consequences*" affords a convenient pretext for the further discussion of certain matters concerning nomenclature, which I have previously touched upon to some extent.

The designation of every species consists of two distinct parts: the generic symbol and the specific name. The former need not necessarily have any meaning whatever, the latter always must have a meaning; we should therefore apply to these two parts rules which are somewhat different.

I apply the word "symbol" to the generic designation, because the latter is not a word in the ordinary sense of being a combination of letters possessing linguistic meaning, but is simply a coördination of letters, the sole conditions of which are that of being readily pronounceable, or consisting of consonants and vowels harmoniously arranged, and of having a Latin termination, in order to determine generic endings in the specific name. Even this last condition has not been strictly complied with, as a great many generic symbols have Greek or barbarian terminations, often necessitating the arbitrary determination of gender; nevertheless, words with endings which are neither Latin nor Greek, such as *Marail Less.* and *Lemming Cuv.*, should not be admitted. The earliest printed symbol satisfying these conditions should be the one adopted.

The specific designation is, however, a word taken from the Latin, or from any other language through the Latin by universal agreement, in order to avoid the undue favoring of any of the languages at present in use, and the inevitable discordances of opinion which would result therefrom. As one of the prime conditions of the specific name is that it shall have a meaning, and must therefore be linguistic in form and origin, there can be no objection to the alteration of the printed word to suit the proper rules of orthography or gender, when the intentions of the imposer of the name are evident. There are, in fact, on the ground of uniformity and simplicity, many reasons why this should be done, and why rules should be laid down and followed for writing specific names derived from various sources.

Now let us ask the question: Upon what foundation principle does the permanence and inflexibility of our nomenclature depend?—for no scientific notation or symbolization in any branch of human investigation can be of value, which is not put beyond the power of individual opinion to alter at pleasure. This question seems to be easily answerable if (1) we agree to adopt the earliest properly published combination of letters intended to represent any particular genus, and (2) if we formulate invariable rules for writing specific names, but is apparently unanswerable under any other conditions. If a writer be permitted to alter the original spelling of a generic symbol on the ground of incorrect orthography, we at once dispel any hope of permanence in nomenclature, and open the door to new argument and discussion which may result in a subsequent author giving a third designation, based upon his own conception of the hypothetical intentions of the original namer, and so on without end to the ultimate destruction of all semblance of stability: for there are differences of opinion as to the proper spelling of certain words in all languages.

If it be asked why the generic symbol need have no meaning in any language which has ever existed, while the specific designation is required to have a meaning in or through the Latin, it may be answered that it simply results from the condition of nomenclature as we find it to-day. One need but glance over a small portion of the great Munich Catalogue, to see that the proportion of generic words of unknown or dubious etymology, is so great as to give character to the whole, and to necessitate the rule that generic words must simply be considered harmonious combinations. In regard to the specific names, however, we can perceive at once that the proportion of words among them which are devoid of meaning or withdrawn from the influence of linguistic rules, is not large enough to have any weight at all.

In view of these facts, it is quite incomprehensible how the original generic symbols *Brentus*, *Sitona*, *Monochamus*, *Leiopus*, *Leichenum* and a host of others, could have been changed as they have been. Are not the words noted harmonious combinations, and, *as such*, are they not as much entitled to stand as *Brenthus*, *Sitones*, *Monohammus*, *Liopus*, and *Lichenum*? We must go back to the original mode of spelling generic names before nomenclature can be placed upon an absolutely stable foundation. The next catalogue similar in scope to the Munich Catalogue, will be the first suitable opportunity for effecting this change, and it is hoped that the liberties in spelling which have been proposed in the one alluded to, and which constitute its only serious blemish, will not be repeated.

Other questions involving more or less difference of opinion occasionally arise, as for instance whether generic names, differing only in termination by reason of gender or derivation, as for example *Oplocephala* and *Oplocephalus*, *Platycerus* and *Platyceras*, or *Tylas* and *Tylos*, should be maintained as distinct. As the words become shorter such differences of ending constitute a great part of the entire symbol. *Ulus*, for example, is quite a different word from *Ula*, *Ixus* from *Ixa*, *Janus* from *Jana*, and numerous such resemblances exist at present, but if we admit that *Ulus* and *Ula* are satisfactory as generic

symbols, and there can be but little doubt that they are, we must also admit Oplocephala and Oplocephalus; we should have absolute and consistent law throughout. I believe the difficulty can be overcome if we hold that generic symbols are not words in any sense, but constants, analogous to the constants of a mathematical formula; that they form part of no language,—although Latin by induction, and that they are completely indeclinable, except when used in the genitive as specific names or in the nominative plural as group names. Under these circumstances Ufus and Ufa would be distinct and different combinations of letters, and could be maintained as genera with perfect propriety.

The Ornithological Congress has passed favorably upon the trinomial nomenclature. In regard to this it need only be said that the admission is a dangerous one, for it will result finally in names including four, five or even six words, and nomenclature will gradually become involved in a web of its own weaving. If the trinomial nomenclature is admitted, it should only be with the understanding that either the specific or subspecific name be bracketed. Our system should remain essentially binomial.

### CUCUJIDÆ.

#### LYCTUS Fab.

The characters given by me (Ann. N. Y. Acad. Sci., V, p. 324), to distinguish the two genera *Lyctus* and *Trogoxylon*, I find to be of no value, for, while applicable to the latter as represented by *parallelopipedus*, the distance separating the anterior coxæ gradually diminishes through *californicus* and *punctatus* to the slight prosternal width characterizing *cavicollis* and others. So also in regard to the external prominence of the anterior tibiæ at apex, not at all discernable in *curtulus* and a little more pronounced in *parallelopipedus*, it becomes normally prominent in *punctatus*, this character not having the value here which it has in *Eurymetopon*. The elytral punctures are completely devoid of serial arrangement in *parallelopipedus*, have a slight tendency thereto in *punctatus*, and are distinctly seriate in *californicus*. There are the same gradations in regard to the prominence of the apical angles of the prothorax.

I am forced therefore to regard *Trogoxylon* as a synonym of *Lyctus*, and, a few new forms having been recently received, the present opportunity is taken to give a complete statement of our species as far as known:—

Elytra with series of large rounded shallow punctures, the intervals each with a single series of small coarsely setigerous punctures.....**striatus**

Elytra without series of large shallow punctures, the punctuation however having a more or less distinct serial arrangement.

Apical angles of the prothorax rounded.

Prothorax longer than wide, not or extremely feebly and narrowly impressed; body ferruginous.....**opaculus**

Prothorax quadrate.

Ferruginous; pronotum broadly, rather strongly impressed.

**cavicollis**

Black; pronotum more shining, more sparsely punctate, less convex and less impressed along the middle .....**planicollis**

Prothorax much wider than long, nearly as wide as the elytra; body black .....**parvulus**

Apical angles of the prothorax not rounded.

Larger species; eyes large; elytral series well marked.....**carolinæ**

Small species; eyes small; elytral series more feebly defined.

**californicus**

Elytra with the punctures denser, confusedly arranged or without distinct serial arrangement; apical angles of the prothorax not rounded.

Prothorax as long as wide or extremely nearly so; anterior coxæ widely separated.

Anterior tibiæ gradually much broader from base to apex, not everted externally; basal angles of the prothorax narrowly rounded.

**curtulus**

Anterior tibiæ slender, gradually but slightly broader, and finely, externally everted at apex; basal angles of the prothorax not rounded.

**parallelopipedus**

Prothorax much wider than long.....**punctatus**

In the genus *Lyctus* the slight serricorn affinity indicated perhaps through some extinct or undiscovered genus allied to *Psoa*, is parallel to the melyride affinity of *Berginus*, as shown by its general habitus, and means nothing more, the two affinities being about equally pronounced.

**L. carolinæ** n. sp.—Parallel, moderately slender, rather convex, ferruginous, the head and prothorax darker than the elytra; integuments shining, the vestiture rather inconspicuous, yellowish. *Head* rather coarsely, moderately densely punctate; antennæ slender, one-half longer than the head, the club moderate, joints three to five subequal, nearly twice as long as wide. *Prothorax* about as long as wide, the apex distinctly wider than the base, evenly, strongly arcuate throughout; base broadly but less strongly arcuate; sides feebly convergent from the apical to the basal angles and just visibly sinuate throughout; apical angles feebly, laterally prominent, right, very slightly blunt but not rounded; basal angles slightly obtuse but not at all

rounded; disk feebly convex, broadly, distinctly impressed along the middle, rather coarsely, deeply and densely punctate, the interspaces narrow but polished; pubescence short and rather sparse. *Elytra* about three times as long as the prothorax and but just visibly wider than the latter, about two and one-third times as long as wide, parallel, the sides straight, very abruptly and obtusely rounded behind, the humeri right, narrowly rounded and rather broadly exposed; disk cylindrically convex, the punctures rather fine but deep, slightly oval, unevenly aggregated in narrow distinct series, but confusedly arranged near the suture, more broadly so toward base, the intervals between the series minutely, confusedly and sparsely punctate, the setæ rather short, fine and recumbent, the series apparently feebly impressed. *Abdomen* shining, minutely, rather densely and unevenly punctate. Anterior coxæ separated by fully one-third their own width; anterior tibiæ strongly and externally produced at apex. Length 3.8 mm.; width 1.0 mm.

South Carolina. Mr. Morrison.

A single specimen. This species is easily distinguishable from *striatus*, which it perhaps most closely resembles, by its entirely different elytral punctuation and thoracic structure.

**L. californicus** n. sp. (Crotch MS.).—Rather slender, parallel, somewhat strongly depressed, castaneous to piceous-black, strongly shining; pubescence not conspicuous. *Head* transverse, somewhat coarsely and densely but shallowly punctured, the epistomal suture deep, transverse, the epistoma short, almost impunctate, polished; eyes rather small, convex; antennæ slender, compact, almost glabrous, one-half longer than the head, the club small and slender. *Prothorax* as long as wide, feebly narrowed from apex to base, the apex broadly, strongly arcuate, the base subtruncate; sides straight, minutely denticulate throughout; apical angles right, not rounded, basal slightly obtuse, minutely denticuliform and prominent; disk feebly convex, broadly, feebly impressed in the middle and finely canaliculate near the base, coarsely punctate, the punctures not very dense, shallow, becoming fine and sparse anteriorly especially toward the middle; pubescence coarse but sparse. *Elytra* a little less than three times as long as the prothorax and but very little wider, a little more than twice as long as wide, parallel, the sides straight, feebly convergent and arcuate toward apex, the latter rather narrowly subtruncate; humeri right, scarcely at all rounded, distinctly exposed; disk moderately convex, polished, rather finely, sparsely punctate, the punctures deep but narrow and elongate, arranged in subeven single rows except toward the suture and base, where they are confused, the intervals not perceptibly punctate, the coarse sparse recumbent setæ entirely filling the punctures and rather irregularly distributed. *Abdomen* polished, excessively minutely and sparsely punctate. Anterior coxæ widely separated, the prosternum polished and almost completely impunctate. Anterior tibiæ strongly broadening toward apex, the apical angle acute and distinctly prolonged outwardly. Length 2.2-2.5 mm.; width 0.65 mm.

California (Fort Yuma). Mr. H. F. Wickham.

One of the two specimens before me has the prothorax more strongly narrowed behind than the type above described, the difference being probably sexual in nature. It will be observed that the characters of this species are quite composite, the outer apical angle of the anterior tibiæ being prolonged and acute, the elytral punctures distinctly serial in arrangement, and the anterior coxæ widely separated. It is the smallest of the genus known to me from our territories.

**L. curtulus** n. sp.—Parallel, rather depressed, pale brownish-testaceous throughout, moderately shining, the vestiture coarse, yellowish, moderately long and dense and somewhat conspicuous. *Head* rather coarsely, very densely punctate, the epistoma less densely so, the suture very deep, broadly arcuate; eyes moderate in size and prominence; antennæ stout, nearly one-half longer than the head, the third and fourth joints subequal and each rather distinctly shorter than the fifth, club small but robust, oval and rather compact. *Prothorax* as long as wide, distinctly narrowed from apex to base, the apex broadly, strongly arcuate; base very feebly arcuate; sides straight; apical angles very slightly obtuse, not rounded although slightly blunt, basal more broadly obtuse and decidedly blunt; disk feebly convex, broadly feebly impressed in the middle except toward apex, with a fine deep canaliculation near the base, moderately coarsely, very densely punctate, a little more sparsely so near the apical margin. *Elytra* two and one-half times longer than the prothorax and scarcely at all wider than the latter, not distinctly more than twice as long as wide, the apex broadly, abruptly and obtusely rounded; humeri right, not rounded but a little blunt; sides straight; disk rather closely, confusedly punctate, with two or three feebly defined, narrow, impunctate lines on each. *Abdomen* polished, minutely and very sparsely punctate. Anterior coxæ rather widely separated, the prosternum polished and almost impunctate, the hypomera rather finely and very densely so throughout. Anterior tibiæ gradually much broader from base to apex but with the exterior angle not at all produced outwardly. Length 2.7 mm.; width 0.8 mm.

California.

The two or three narrow, slightly oblique, impunctate lines on each elytron, is a character which is also sometimes observable in *parallelopipedus* and *punctatus* but much less distinctly. The present species differs from *californicus* in its broader form, denser punctuation especially of the hypomera and elytra, in its more narrowly separated anterior coxæ, and in its uneverged exterior apical angles of the anterior tibiæ, as well as in its stouter antennæ with much larger club and in its slightly larger but less convex eyes.

*L. punctatus* Lec. from Cape San Lucas is a remarkably aberrant

species, broader and more convex in form than any of the others, and with the elytra narrowed from apical third, more narrowly subtruncate and broadly arcuate at apex. The head is transverse, with the eyes moderate in size and strongly convex, the antennæ stout, nearly normal in size and structure but with the club parallel, the epistomal suture very fine and scarcely perceptibly impressed. The prothorax is much wider than long, nearly as wide as the elytra, feebly narrowed from apex to base and with the sides feebly, evenly arcuate throughout, the disk being feebly impressed in the middle toward base. The elytra are not quite twice as long as wide, very coarsely deeply and confusedly punctate, the punctures toward base becoming dense and subcoalescent. The abdomen is polished, minutely and sparsely punctate, the prosternum polished, rather strongly but sparsely punctate, the process being rather broad between the coxæ. The anterior tibiæ have the exterior apical angle prolonged outwardly and acute. The head and pronotum are rather coarsely and densely and unusually deeply punctured, and each puncture of the entire upper surface bears a short robust erect seta, which is coarsely plumose or bushy in structure. The feebly marked epistomal suture, parallel antennal club and peculiar vestiture may perhaps warrant the generic isolation of this species, in which event the name *Trogoxylon* Lec. could be appropriately adopted for it.

## ELATERIDÆ.

### **CHALCOLEPIDIUS** Esch.

The following species belongs near *webbi* Lec., but is much larger:—

**C. apacheanus** n. sp.—Moderately slender and convex, smooth, polished, intense black throughout, clothed rather densely with small robust recumbent and squamiform hairs, which are strongly convex and finely pointed, dark bluish in color, giving a deep violet-blue bloom to the surface, the lateral edges of the pronotum rather broadly, and of the elytra very narrowly, clothed with dense white recumbent pubescence, the white border abruptly limited. *Head* strongly impressed, rather coarsely, deeply, sparsely punctate, the interspaces very finely, densely punctate; antennæ short, two-thirds as long as the prothorax, pruinose with violet-blue, the third joint but slightly shorter than the fourth. *Prothorax* one-fifth longer than wide, in form nearly as in *webbi*, very finely, moderately closely punctate throughout and with scattered coarser punctures anteriorly, especially toward the sides. Scutellum a little wider than long, polished. *Elytra* in form and relation to



the prothorax nearly as in *webbi*, polished, very minutely feebly and rather sparsely punctured, with somewhat uneven, completely unimpressed series of fine, rather distant punctures. Under surface polished, pruinose with violet-blue toward the sides, minutely, feebly punctulate. Length 36.0-38.0 mm.; width 12.0-12.5 mm.

Arizona (Fort Apache).

This species differs from *webbi*, in addition to its very much larger size, in the decidedly longer third antennal joint in the male, more minutely punctulate surface with the pronotum coarsely punctate anteriorly, in the strong impression of the head, in the abruptly limited and much narrower marginal white vittæ, and in the sparser and deep violet-blue vestiture, the latter being extremely dense, paler and olive-green in *webbi*. Together with *webbi*, it belongs to Section III of Candèze, and in the vicinity of *circumductus*, from which it differs in its entirely flat and not alternately convex elytral intervals.

### SCARABÆIDÆ.

#### POLYPHYLLA Harris.

The western species which are homologues of *decimlineata* in ornamentation, may be easily identified as follows:—

Antennal club of the male very large, fully three times as long as the stem; vestiture more or less strongly squamiform.

Antennal club of the female nearly as long as the entire stem; pygidium in both sexes pilose and very sparsely squamose.....**speciosa**

Antennal club of the female about one-half as long as the stem; pygidium in both sexes densely squamose, not at all pilose, with a narrow denuded median line.....**decimlineata**

Antennal club of the male much smaller, not more than twice as long as the stem; vestiture less strongly squamiform.

Pygidium of the male with the edge strongly reflexed at and toward the apical angle; elytral vittæ always dense and distinctly limited; color generally castaneous; spurs of the hind tibiæ extremely unequal, the longer nearly twice as long as the shorter and generally bent...**crinita**

Pygidium of the male with the edge not reflexed at apex; elytral vittæ more or less unevenly disintegrated; color piceous-black; spurs of the hind tibiæ much smaller, straight and subequal .....**diffracta**

My series of *decimlineata* is very full, embracing specimens from Puget Sound, California, New Mexico, Texas and San Luis Potosi, and throughout this region there is but slight variability exhibited in either sex. *Speciosa* is a remarkable species, distinct from *decim-*

*lineata* in its larger size, broader and more depressed form and sparser vestiture, in addition to the characters given in the table.

*Crinita* seems to be comparatively limited in range, all the specimens which I have seen being from Southern California. The following is allied to *crinita*:—

**P. diffracta** n. sp.—Oval, strongly convex, piceous-black, polished, the vestiture consisting of very narrow, extremely sparsely scattered scales intermingled with longer erect hairs on the pronotum, the latter trivittate, each elytron with a very narrow sutural and three discal vittæ of denser white scales, also a short humeral vitta which is more or less evanescent, but sometimes prolonged, the elytral vittæ more or less disintegrated and uneven. *Head* coarsely, densely punctate, the clypeus broadly reflexed, extremely broadly, feebly bisinuate at apex and very densely clothed with yellow squamose pubescence. *Prothorax* twice as wide as long, the apex broadly emarginate and much narrower than the base; sides broadly subangulate; lateral vitta interrupted anteriorly. *Elytra* about three times as long as the prothorax, and, in the middle, one-third wider than the latter, rather finely, sparsely punctate and subrugulose. *Pygidium* slightly wider than long, very densely squamulo-pubescent except toward the sides, where it is very sparsely so, also with a subdenuded median line. Length 21.0–24.0 mm.; width 10.3–11.3 mm.

New Mexico (probably near Las Vegas).

The two specimens before me are males; there is another in the cabinet of Mr. Jülich in which the elytral vittæ are still more disintegrated. The antennal club of the male is still somewhat smaller than in *crinita*.

*Subvittata* and *hammondi* of LeConte are easily distinguishable from each other by the antennal character separating *decimlineata* and *crinita*. The male club in *subvittata* is fully three times as long as the stem, and in *hammondi* but slightly more than twice as long as the latter; there are differences also in the general character of the elytral ornamentation, form of the clypeus, size and other characters, showing that the two species are without doubt distinct. Mr. Dunn, who has taken both of them abundantly, states that they are never found together.

#### THYCE Lec.

With increased care in collecting, the species of this interesting genus are becoming somewhat numerous on the Pacific coast, where they replace *Lachnosterna* to some extent. The species appear to be more nocturnal than crepuscular in habit, and, although proba-

bly constituting a moderately large genus, are unquestionably much less numerous than those of *Lachnosterna*.

The two following species have been received since my last reference to the genus:—

**T. blaisdelli** n. sp.—Robust, moderately convex, form nearly as in *fossiger*, rather shining, pale rufo-castaneous in color, the humeri and under surface blackish; vestiture pale ochreous in color.

*Male*.—*Head*, excluding the eyes, subquadrate, but slightly wider than long, very densely clothed with short robust pubescence and long erect hairs; clypeus moderately reflexed, very feebly sinuate, the angles broadly rounded; antennæ moderate, the club slender, straight, a little shorter than the stem; fourth joint of the maxillary palpi unusually robust, oval, twice as long as wide, about three-fourths as long as the antennal club, the groove wide, deep, extending from base to apex, two and one-half times as long as wide, the bottom broadly, evenly concave and alutaceous in lustre. *Prothorax* two-thirds wider than long, broadly lobed at base and subangulate at the sides, somewhat coarsely and densely punctate, clothed rather densely with robust squamiform pubescence and fine, moderately long erect hairs. Scutellum densely punctate and squamose. *Elytra* about one-third longer than wide and nearly one-half wider than the prothorax, the apex broadly subtruncate; sides feebly arcuate; humeral callus rather prominent; disk shining, moderately densely and unevenly punctate and subrugulose, the punctures somewhat strong, the vestiture consisting of short recumbent moderately densely placed hairs, which are robust but not at all squamiform. Pygidium finely, densely punctate and clothed like the elytra. *Abdomen* finely, densely punctate and very densely squamulo-pubescent, the vestiture whiter than that of the upper surface; sterna with the usual long silken pile. *Legs* rather short, the posterior tarsi distinctly shorter than the tibiæ; unguis of the corresponding tarsi very unequal, the anterior twice as long as the posterior. Length 20.0–23.0 mm.; width 9.4–11.0 mm.

California (Coronado, San Diego Co.). Dr. F. E. Blaisdell.

This species, which is represented by the male only, is somewhat allied to *fossiger*, but differs in its more robust and less densely placed elytral vestiture, shorter, much broader terminal joint of the maxillary palpi and in its shorter posterior tarsi.

I have before me a female, pale brownish-rufous in color, strongly shining throughout, with the elytral pubescence excessively fine and sparse, much shorter and finer than in *squamicollis*, but about twice as dense as in that species. It was taken at Los Angeles and probably represents still another species which it would not be advisable to describe in the absence of the male. It may possibly be the female of the present species.

**T. squamosa** n. sp.—Oblong-oval, strongly convex, piceous-black; integuments shining.

*Male*.—*Head* densely punctate, clothed with long erect hair and shorter recumbent squamiform hairs, the vestiture of the clypeus a little sparser; vertex not tuberculate; clypeus broadly, feebly sinuate, strongly reflexed, the angles obtuse and but slightly marked; antennæ moderate, the club nearly three-fourths as long as the stem; fourth joint of the maxillary palpi very long, fully one-third longer than the antennal club, with a narrow, very deep, parallel-sided groove throughout the length. *Prothorax* one-half wider than long, the apex broadly, evenly emarginate, fully one-half as wide as the base, the latter broadly subangulate; sides broadly subangulate, the margins strongly reflexed toward base, feebly serrate; apical angles narrowly rounded, basal rather obtuse and broadly rounded; disk very strongly convex, narrowly impressed along the middle, coarsely, densely punctate, clothed with long erect hair and long robust recumbent and squamiform pubescence, which is dense along the median line except near the base. Scutellum densely punctate and squamose. *Elytra* one-third longer than wide, one-third wider than the prothorax, subparallel; sides feebly arcuate; humeri rounded; apex broadly subtruncate; disk finely, somewhat densely punctate and clothed with distinct pointed scales. Pygidium slightly wider than long, convex, densely clothed with long narrow scales and short hairs. *Abdomen* somewhat densely clothed with elongate scales and short hairs, the sterna densely pilose. *Legs* moderately slender; hind tarsi fully as long as the tibiæ, with the tooth of the anterior claw nearly twice as long as that of the posterior.

*Female*.—Larger and stouter than the male, the vertex tuberculate, the antennal club small and oval, the fourth joint of the maxillary palpi three-fourths as long as the latter, elongate-triangular, with a narrow deep elongate groove not quite attaining the base or apex; pygidium much wider than long; anterior tibiæ robust; hind tarsi two-thirds as long as the tibiæ, the teeth of the claws small and more nearly equal. Vestiture throughout consisting of minute recumbent hairs, sparsely placed, with erect hair as in the male.

Length 20.0–23.0 mm.; width 9.3–11.3 mm.

California (San Luis Obispo Co.).

A distinct species, somewhat related to *harfordi*, but easily distinguishable by many characters of both sexes. The tubercle of the vertex is, throughout the genus, particularly characteristic of the female.

## CERAMBYCIDÆ.

### ERGATES Serv.

#### Subgen. TRICHOCNEMIS Lec.

The principal character upon which reliance was placed in separating *neomexicanus* from *spiculatus*, is rendered somewhat doubt-

ful from the fact that similar differences, in the male sexual characters at the apex of the abdomen, are observable in specimens apparently taken in the same locality. I have observed them in examples said to have been collected in Oregon, and forming part of the cabinet of Mr. Ulke, and Dr. Horn states (Tr. Am. Ent. Soc., XVIII, p. 41) that they are equally visible in specimens in his own cabinet taken in Vancouver Island.

Nevertheless there are some circumstances which lead me to believe that this is not a case of ordinary fortuitous variation, the chief of which is the apparent want of any known male specimen in which the modification of the fifth segment is truly intermediate between the forms figured on Plate IV, Vol. V, of these Annals. Another singular fact is the remarkable disparity in general form and several important structural characters, as exhibited in the assumed male type of *spiculatus*—represented by a specimen in my cabinet taken near the shores of Cœur d'Alène Lake, Idaho—and the specimens taken by Mr. Meeske at Las Vegas, New Mexico.

Not being able, therefore, to be fully satisfied that the species described by me as *neomexicanus* is actually the same as *spiculatus*, it seems only right that the question should be held in abeyance until more material can be collected in both of these, as well as in other, localities. When this is done, and if it be then proved that the two names are truly synonymous, I believe that it will be demonstrated at the same time that the male of *spiculatus* is dimorphous.<sup>1</sup>

#### PRIONUS Geoff.

The following species is allied to *imbricornis*:—

**P. debilis** n. sp.—Narrow, subparallel, rufo-testaceous, the elytra pale brownish flavate, thin and almost coriaceous; lustre moderately shining.

<sup>1</sup> Since this was written I have compared the females of the two forms in question, and find that the mandibles of *spiculatus* are bidentate internally, the teeth being situated before and behind the middle respectively, while in *neomexicanus* there is but one tooth, situated at the middle; in the latter the basal joint of the antennæ is much shorter than in the former in both sexes, but especially in the female. Having in mind the comparative constancy of female structural characters, these observations tend to materially strengthen my original position, in regarding the two specimens of *spiculatus* and four of *neomexicanus* which I have before me, as representative of two distinct but rather closely allied species. *Spiculatus* inhabits the Pacific districts, extending inland toward the north and descending along the Rocky Mountains as far as Colorado; to the southward of this limit it is replaced by *neomexicanus*.

*Head* coarsely, deeply punctate, sparsely so behind; eyes separated above by three-fourths of their own width; antennæ (male) two-thirds as long as the body, nearly as in *imbricornis*, 18-19 jointed. *Prothorax* more than twice as wide as long, two-thirds wider than the head and three-fourths as wide as the elytra; base and apex equal, transverse, each feebly sinuate laterally; sides parallel, feebly dentate at base and apex and also just before the middle; disk rather finely and sparsely punctate. *Elytra* twice as long as wide, parallel, the sides feebly arcuate, obtusely rounded behind, narrowly dehiscent from basal third or fourth; inner apical angle obtuse, with scarcely an indication of the everted tooth of *imbricornis*; disk coarsely, deeply, subrugulose punctate. *Legs* slender, posterior tarsi very slender, the under surface densely pubescent only in two small spots at the apices of joints one to three. Length 20.0-24.0 mm.; width 8.0-9.5 mm.

Indiana; Missouri; Kansas.

Represented by a very homogeneous series of seven male specimens from the Levette cabinet; I have not seen the female.

This species is allied to *imbricornis*, having nearly the same antennal structure, but differs in its much smaller size, narrower, more parallel and less convex form, less chitinated and paler elytra, in the more widely separated eyes and in the vesture of the hind tarsi. In the normal forms of *imbricornis*—for there seems to be at least one undescribed variety of this species before me—the eyes are separated above by much less than one-half of their own width, and the posterior tarsi are densely pubescent throughout joints one to three, in a widely divided line except toward the base of the first joint. The upper surface of the antennæ is much more coarsely and sparsely punctate throughout in *debilis* than in *imbricornis*, this being one of the most striking and constant of the differential characters.

#### TETROPIUM Kirby.

The species before me may be recognized as follows—the characters throughout being taken from the female, except when otherwise mentioned:—

Elytra wider than the prothorax; third antennal joint in the male much longer than the second.

Third antennal joint (female) pyriform, unusually short, scarcely twice as long as wide; pronotum very sparsely punctate except laterally; elytra generally pale ..... **cinnamopterum**

Third antennal joint (female) much more elongate, always distinctly more than twice as long as wide; pronotum very densely punctate.

Pronotum with a narrow and abruptly limited median impunctate area toward base, which is subcarinate; elytra generally pale.

**parallelum**

Pronotum without a median impunctate area except narrowly and vaguely toward base; elytra usually concolorous.

Sides of the prothorax broadly rounded; pygidium evenly parabolic.

**schwarzianum**

Sides of the prothorax vaguely subangulate in the middle, the punctation very fine, extremely dense; pygidium triangular with the apex narrowly subtruncate.....**velutinum**

Elytra not wider than the prothorax; second antennal joint of the male but slightly shorter than the third, the latter equal in length to the fourth.

**parvulum**

The forms of *Tetropium* here mentioned seem certainly worthy of recognition, and as far as can be perceived are as distinct as is usually the case in the allied genera. The color of the elytra varies, it is true, as is usual in this part of the *Cerambycidae*, but the characteristics of sculpture and structure upon which the species have been separated, are of more permanent value. The genus will probably prove to be more fully developed in our fauna than in the European.

**T. parallelum** n. sp.—Elongate, moderately convex, parallel, piceous-black, the elytra paler and uniform red-brown, rather dull throughout, the pubescence short, very dense. *Head* densely punctate, the longitudinal frontal groove feeble; antennæ nearly one-half as long as the body, moderately incrassate toward base. *Prothorax* slightly wider than long, the apex and base truncate, the former much the wider; sides broadly, obtusely angulate at the middle; thence feebly convergent to the apex, more strongly so to the base and almost straight; disk longitudinally, distinctly impressed in the middle, finely, very densely punctate, extremely densely so laterally and toward base except along a narrow tumid median line. *Scutellum* shining, finely, rather densely punctate. *Elytra* two and one-half times as long as wide, about one-fourth wider than the prothorax, the apex obtusely and abruptly rounded. *Legs* moderate in length, rather densely pubescent. *Pygidium* triangular, with the apex subtruncate. Length 12.0–14.0 mm.; width 3.3–3.8 mm. ♀.

Colorado; New Mexico.

Represented by three females which agree perfectly among themselves. *Parallelum* slightly resembles *cinnamopterum*, but differs in its larger size, more elongate elytra and in the characters given in the table; it is more southern in habitat than *cinnamopterum*, which is represented before me by both sexes from Canada and

New Hampshire. In the male of *cinnamopterum* the pronotal punctuation is still sparser than in the female.

**T. schwarzianum** n. sp.—Robust, the elytra somewhat depressed, piceous-black and rather dull throughout, the pubescence short and dense. *Head* moderately densely and somewhat unevenly punctate; antennæ nearly one-half as long as the body, the second joint nearly two-thirds as long as the third, the latter feebly swollen toward apex. *Prothorax* but little wider than long, the apex wider than the base, both truncate; sides broadly, strongly arcuate, becoming convergent and straighter toward base and apex; disk constricted just before the base, rather strongly, deeply punctured throughout, the punctures generally separated by about twice their widths but denser laterally and toward base, with a more or less narrow uneven impunctate area toward base, which is not at all tumid. *Elytra* not more than twice as long as wide, in the middle nearly one-half wider than the prothorax, slightly dehiscent near the apex and obtusely subtruncate; sides parallel and broadly arcuate; disk with indistinct traces of the usual two fine ridges. *Legs* moderate in length. Length 14.0 mm.; width 4.5 mm.

Michigan (Marquette). Mr. Schwarz.

This species somewhat resembles *velutinum*, but differs in its shorter and more robust form, more broadly rounded sides of the prothorax and coarser, sparser pronotal punctuation. It is widely different from *cinnamopterum* in all these characters, as well as in its broader and more parabolic terminal dorsal segment, and much longer antennæ. The description is drawn from the female, and all comparisons are made in the same sex.

**T. parvulum** n. sp.—Parallel, depressed above, black, the antennæ, legs and elytra more or less pale; pronotum highly polished; elytra dull; pubescence short, dense on the elytra. *Head* finely, sparsely punctate, strongly tumid between the antennæ and longitudinally, deeply sulcate; antennæ two-thirds as long as the body, stout, gradually, finely attenuate, the basal joint one-third longer than wide, second but very slightly shorter than the third, obconical. *Prothorax* slightly wider than long, the apex broadly sinuate in the middle, nearly one-half wider than the base, the latter truncate; sides subangulate just before the middle; disk broadly impressed along the middle, constricted just before the base, smooth, highly polished, finely, extremely sparsely punctate, the punctures larger and moderately dense only on the flanks. Scutellum narrow, polished, with a few minute widely distant punctures. *Elytra* parallel, two and one-half times as long as wide, broadly rounded at apex near which they are dehiscent, each elytron rounded; sides straight; disk not wider than that of the prothorax, with vague traces of the usual fine ridges. *Legs* short, the hind femora robust. Length 8.0 mm.; width 2.2 mm.



Indiana.

The description is taken from the male. The species resembles *cinnamopterum*, but differs in many characters, chiefly mentioned in the table, but also in its shorter and more robust legs. The punctuation at the sides of the prothorax is coarser and sparser, and the terminal joint of the antennæ is quite different, being shorter and without a well-marked cylindrical process at apex; the basal joint, also, is much shorter, although this latter character is less important.

#### HYLOTRUPES Serv.

The following species has been well known in our cabinets for many years, and has given rise to much discussion as to its proper value. It is generally conceded to be a well-marked variety of *ligneus*, but certain characters not heretofore dwelt upon lead me to believe that it is specifically distinct.

**H. litigiosus** n. sp.—Black, shining, the pubescence rather long, sparse; elytra with two transverse fasciæ, one before basal third, the other just behind the middle, both broadly interrupted at the suture and not attaining the lateral margins. Head as in *ligneus*. Prothorax nearly as in *ligneus*, but slightly larger. Elytra parallel in the female, distinctly attenuate from base to apex in the male, subdepressed. Length 9.0–12.0 mm.; width 3.0–4.3 mm.

California.

The principal distinctive features of this species, apart from color, are the following:—

1—The prothorax is relatively larger and the elytra distinctly narrowed from the humeri to the apex in the male, the latter being shorter and nearly parallel in the corresponding sex of *ligneus*.

2—The elytral pubescence is longer and rather finer, and the punctures do not become so decidedly finer and closer toward apex, this character applying more especially to the male.

3—The intermediate tarsi of the male of *ligneus* are robust or subdilated, with the second joint about as wide as long, while in the same sex of *litigiosus* they are slender, with the second joint fully one-half longer than wide; corresponding differences are observable also in the anterior tarsi of this sex, the second joint being strongly transverse in *ligneus*, and scarcely wider than long in *litigiosus*.

It is difficult to believe that these differences merely indicate varietal modification, especially as they are confirmed by ample

series in my cabinet. *Ligneus* is found throughout the United States, and is equally abundant in California, while *litigiosus* is confined as far as known to the latter locality.

#### PHYMATODES Muls.

This genus is not separable from *Callidium* by any decided modification of the legs, sterna or trophi, and depends for its validity almost entirely upon habitus; the latter may however often become more important, as a generic character, than the modification of any special organ, as is apparently evidenced in the present case.

In *Phymatodes* the eyes are singularly inconsistent in degree of emargination, the two lobes being generally connected by a rather wide faceted band, but in some species, as *varius*, this band or isthmus becomes very narrow, bearing a single line only of somewhat coarser facets, and in *amœnus* almost entirely disappear, the eyes being as completely divided as in *Tetropium*. Thus a character, apparently important in the *Asemiini*, becomes here quite valueless.

**P. obliquus** n. sp.—Oblong, subparallel, rather depressed, black throughout, the coxæ alone pale testaceous, moderately shining, each elytron with two narrow fasciæ, oblique toward the suture, the anterior at basal third feebly and posteriorly so, the posterior at apical fourth anteriorly and strongly. *Head* somewhat finely, confusedly punctate; antennæ in the male slightly longer than the body, slender, but slightly stouter toward base, the second joint less than one-half as long as the third, the latter slightly longer than the fourth and a little shorter than the fifth, in the female more than three-fourths as long as the body. *Prothorax* very slightly wider than long; apex and base truncate, the former slightly the wider; sides arcuate; disk widest at about the middle, finely punctate, the punctures dense and scabrous laterally, very sparse toward the middle. *Elytra* feebly narrowed from base to apex, and, at base, but little wider than the prothorax in the male, parallel and much wider than the latter in the female, finely, very densely punctate, much more sparsely so in basal third. *Legs* long, with the femora strongly pedunculate and clavate in the male, shorter and a little more slender in the female. Length 7.2-7.6 mm.; width 2.3-2.5 mm.

California (Santa Clara Co.). Mr. Harford.

The three specimens represent a species allied to *varius*, but differing in the much finer, sparser punctuation of the pronotum, denser punctures of the elytra, with shorter finer pubescence, longer antennæ and much more oblique posterior fasciæ.

This species bears no resemblance to *decussatus* of which I have

a large series; the body is more robust, the femora more clavate, and the antennal joints much more elongate.

**CHROTOMA** n. gen.

Body elongate, densely pubescent, the elytra with small denuded spots. Head not quite vertical, the front feebly concave between the antennæ, longitudinally and finely sulcate, divided from the epistoma by a rather fine but distinct sulcus; eyes deeply emarginate, large, coarsely faceted; palpi slightly unequal, elongate, slender, the last joint elongate, nearly parallel, the apex minutely, transversely truncate; antennal tubercles slightly and obtusely prominent; antennæ (female) two-thirds as long as the body, the third joint very long, slender, slightly enlarged near the apex, three-fourths longer than the fourth, the latter slightly shorter than the fifth, joints five to eleven subequal in length, compressed, the edges very acute, the flat sides feebly swollen along the middle, the apex acutely angulate and very prominent but not spinose internally, tenth joint slightly shorter than the ninth or eleventh, the latter with a small conical apical process. Prothorax without lateral spine and with five dorsal callosities. Scutellum acutely triangular. Elytra with a stout acute sutural spine. Front coxal cavities angulate externally, separated by a narrow but distinct prosternal lamina. Middle coxæ distinctly separated, the cavities open externally. Metathoracic episterna moderate in width, scarcely visibly narrowed from base to apex. Legs short, slender, the basal joint of the hind tarsi rather longer than the two following combined.

This genus, together with *Brothylus* and *Osmidus* of LeConte and *Perilasius* Bates, constitutes a group of species which is very difficult to treat; they are all allied to the European *Hesperophanes*. *Chrotoma* differs from *Brothylus* and *Osmidus* in the peculiar elongate subparallel form of the last joint of both palpi, and from *Perilasius*, to which it is probably more closely allied, in the slender, almost parallel femora, absence of lateral thoracic spine in the female, and very different disposition of the dorsal callosities, apparently also in the form of the terminal palpal joints.

**C. dunniana** n. sp.—Parallel, moderately, evenly and cylindrically convex, piceous-black throughout, the antennæ and legs concolorous, the elytra with a marginal and discal vitta of pale rufo-testaceous, feebly evident through the dense vestiture and which become more distinct toward base; pubescence moderate in length, coarse, recumbent, very dense throughout the body and legs, pale grayish-white, the small elytral denudations bearing long erect flying hairs, the latter also present rather densely on the prothorax and sparsely on the legs and toward the base of the antennæ. *Head* three-fourths as wide as the prothorax, the antennæ clothed with fine recumbent ashy pubescence toward base, which becomes slightly darker and excessively minute

and dense toward apex. *Prothorax* very slightly wider than long, the base and apex equal, truncate, the sides evenly and rather strongly arcuate; disk with four small denuded callous spots, which are granulato-rugose but not elevated and arranged in a transverse arc at about the middle of the length, the fifth slightly more elongate-oval on the median line at basal third; on each side of the latter there is also visible a minute callus, which is probably not constant, the median callus slightly impressed and polished. *Elytra* about one-fifth wider than the prothorax, parallel, the sides straight, the apex abruptly, broadly rounded, subtruncate in the middle; disk with fine, rather dense punctures, almost completely concealed by the vestiture, the denuded spots small, numerous, arranged without order, smooth, polished and flat. Length 16.5 mm.; width 4.3 mm.

Texas (El Paso). Mr. G. W. Dunn.

The vestiture is longer, coarser and denser than in *Brothylus*, and almost completely conceals the sculpture. The species is represented by a single female.

#### ELAPHIDION Serv.

*Hypermallus* Lac.; *Aneflus* Lec.

The following species belongs near *irroratum* and *mucronatum*, but has the outer joints of the antennæ strongly and finely carinate along the middle of the flat sides, being thus a highly typical member of the group of species generically separated by Dr. LeConte under the name *Aneflus*; it will be noticed that the outer joints of *irroratum* are also strongly carinate. In fact *Aneflus* not only cannot be regarded as a genus, but apparently does not form even a distinctly marked group, the tendency to carination being apparent in the majority of species and to a very variable degree, so that it is impossible to assign any limits to the group.

**E. arizonense** n. sp.—Form as in *irroratum*, castaneous throughout, scarcely more shining than *mucronatum*; pubescence very short and sparse, finely and rather sparsely marmorate on the pronotum and elytra with small irregular patches of denser pale yellowish pubescence, four of the spots of the pronotum forming a transverse row just before the middle. *Head* coarsely, densely punctate; antennæ (male) about two-fifths longer than the body, stout, third and fifth joints equal in length, the fourth distinctly shorter, three to five strongly spinose internally, the remainder with a small inner and outer spine at apex, joints eight to eleven with a fine strong median carina along their compressed sides. *Prothorax* very nearly as long as wide; apex and base subequal, truncate; sides broadly, very obtusely subangulate at or just behind the middle; disk with a small, elongate, almost impunctate median callus just behind the middle, and a subcallous line at lateral fourth

extending from apical two-fifths to the base, which is more coarsely punctate and more pubescent; other regions dull, coarsely punctate, the punctures densely crowded and themselves finely densely punctate, forming an intricate but coarse sculpture. Scutellum densely pubescent. *Elytra* a little less than three times as long as wide, at base distinctly wider than the prothorax; sides feebly convergent from base to apex, the latter truncate, the outer spine very short and broadly obtuse, the sutural short, narrower and more acute; disk sparsely punctate, the punctures very coarse toward base but fine in apical half. Under surface nearly as in *mucronatum*, the legs longer and the femora much stouter in the male, not spinose; posterior tibiæ carinate as in *irroratum*. Length 21.0–23.0 mm.; width 5.6–5.8 mm.

#### Arizona.

The two specimens, which are from the Levette cabinet, are both males. Although by the characters given for *Aneflus*, this species should be placed near *protensum*, I cannot recommend that it be withdrawn from the neighborhood of *irroratum*, and if it is transferred to *Aneflus*, *irroratum* must go also; but in truth there is no such group in nature as *Aneflus*, and it should therefore be suppressed and the species returned to *Elaphidion*.

**E. levettei** n. sp.—Elongate, very slender, parallel, dark rufo-castaneous, shining, the pubescence silvery-white, not at all maculate on the prothorax, arranged in four even parallel vittæ on each elytron, which do not quite attain the apex, and which are separated by narrower, very sparsely pubescent lines, also with a series of small widely separated denuded spots on each side of the suture. *Head* rather coarsely, densely punctate; antennæ wanting in the type. *Prothorax* much longer than wide, the apex subtruncate, distinctly narrower than the base; sides feebly swollen just behind the middle, thence feebly convergent and nearly straight to the apex, and parallel and feebly, broadly sinuate to the base; disk very coarsely, deeply, densely punctate, the punctures tending to coalesce transversely at the sides, with a small elongate very uneven impunctate area at the middle. Scutellum densely white, small, the pubescence not at all parted along the middle. *Elytra* fully three times as long as the head and prothorax together, at base two-fifths wider than the latter, each elytron very narrowly truncate at apex, and with two subequal slender and well-developed spines; sides nearly straight, very feebly convergent from base to apex; disk sparsely punctate, the punctures very coarse toward base, gradually rather fine toward apex, the dense pubescence of the vittæ not borne from the punctures, but from almost invisible punctuation of the flat interspaces, each of the sparsely pubescent lines having an extremely widely spaced row of coarser punctures, each bearing a long flying hair, one of the latter borne also from each of the small sutural denuded spots. *Legs* rather long, the femora very slender, not spinose at apex; tibiæ and tarsi wanting in the type. Length 18.0 mm.; width 3.5 mm.

Arizona.

A single mutilated male from the Levette cabinet.

This species would almost seem to be generically distinct from *Elaphidion*, but there are no characters relating to the under surface by which it can be separated. The form of the body and size are almost exactly as in *subpubescens*, near which it may be placed for the present.

### RHOPALOPHORA Serv.

The following species is allied to *longipes* but differs in its broader form:—

**R. meeskei** n. sp.—Elongate, subparallel, deplanate above, black throughout, the prothorax above and beneath rufo-ferruginous; integuments dull and strongly alutaceous. *Head* somewhat coarsely, deeply punctate; antennæ one-half longer than the body in the male, scarcely longer than the latter in the female, very slender, filiform, the basal joint much thicker. *Prothorax* but very slightly longer than wide; base broadly emarginate, scarcely one-half wider than the apex; sides strongly arcuate at basal third, thence convergent anteriorly; disk moderately constricted laterally at the apex and just before the base, broadly, feebly biimpressed, the impressions joined by a short transverse impression, the pubescence yellow, forming two broad longitudinal lines. *Elytra* nearly as in *longipes*, but more finely and densely cribrate. *Legs* as in *longipes*. Length 7.5–8.4 mm.; width 1.7–1.9 mm.

New Mexico (Las Vegas). Mr. H. Meeske.

In *longipes* the form is very slender, the prothorax much longer than wide, truncate at base, with the punctures extremely fine and sparse, while in the present form the punctures are quite coarse and distinct. In *longipes* the pronotum is not at all impressed, and the lines of extremely short fine pubescence are very narrow.

The species of *Rhopalophora* within our limits may be recognized as follows:—

Pronotum impunctate; large species, 12 mm. in length .....**laevicollis**

Pronotum punctate; smaller species, not exceeding 9.5 mm. in length.

Pronotum not rugulose.

Prothorax narrow, truncate at base, not impressed dorsally...**longipes**

Prothorax broader, feebly biimpressed dorsally, broadly, strongly emarginate at base; form more robust .....**meeskei**

Pronotum transversely plicate and rugulose .....**rugicollis**

The true *longipes* is represented before me by a good series from Indiana.

**CROSSIDIUS** Lec.

The species of this genus with tuberculate sides of the prothorax may be easily distinguished as follows:—

Prothorax more or less strongly transverse, very densely, confluent punctured and densely pilose.

Antennæ of the male rather short, never much longer than the body, those of the female very short and stout, with the joints scarcely more than twice as long as wide.

Elytral punctuation very coarse, becoming slightly finer toward apex, the punctures always distinctly separated.....**punctatus**

Elytral punctuation finer, becoming extremely dense toward apex.  
**testaceus**

Antennæ of the male very long and slender, much longer than the body, those of the female moderate in length, slender, with the joints three or four times as long as wide.

Antennæ and legs pale; posterior tarsi short and slender; elytral punctures coarse, always distinctly separated.....**intermedius**

Antennæ and legs black or piceous-black; posterior tarsi longer and much stouter.

Elytral punctures fine and very dense, coarser toward base.

**longipennis**

Elytral punctures very coarse, nearly as in *punctatus*, but much denser.

**crassipes**

Prothorax much less transverse, coarsely, deeply punctate and shining, the punctures all distinctly separated.

Antennæ of the male much longer than the body.

Elytra rather finely and very densely punctate, the elytral base and suture throughout black.....**hirtipes**

Elytra very coarsely, sparsely punctate, with a narrow fusiform black area at the suture, scarcely ever extending as far as basal fourth.

**nitidicollis**

Antennæ of the male much shorter, never notably longer than the body; elytral punctures very coarse toward base, the disk with a broad black sutural area, which is usually angulate anteriorly, sometimes attaining the base .....**pulchellus**

The posterior legs are notably longer than the four anterior throughout the genus, as usual in this part of the family.

**C. longipennis** n. sp.—Elongate and slender, the female more robust, oblong and parallel, pale brownish-testaceous throughout, the legs, antennæ, a more or less narrow fusiform sutural line not closely approaching the base, and the pronotum except laterally, black; integuments moderately shining; pubescence fine, long and very dense on the pronotum, shorter but dense on the elytra. *Head* rather small; antennæ (male) nearly one-half longer than

the body, the third joint as long as the prothorax, (female) two-thirds to three-fourths as long as the body, slender, not distinctly compressed, the intermediate joints from three and one-half to four times as long as wide. *Prothorax* from one-half (male) to nearly once (female) wider than long, the lateral tubercle strong, the apex quite distinctly narrower than the base; disk extremely densely punctate, a very short narrow line in the middle usually more or less impunctate. *Elytra* at base as wide as the prothorax, each elytron narrowly truncate at apex and obtusely but very distinctly angulate externally; disk of each with the usual three fine lines, rather finely, very densely punctate toward apex, the punctures still dense but coarser toward base. Length 15.0–19.0 mm.; width 4.4–5.7 mm.

#### New Mexico.

Related to *intermedius*, but larger and with much finer, denser punctuation, and black legs and antennæ. In *intermedius* the elytra are rounded behind and not truncate and angulate or even prominent externally as in *longipennis*; this is an unusual character in the present genus, but may be perceived also to a less degree in *hirtipes* Lec.

Four specimens from the Levette cabinet.

**C. crassipes** n. sp.—Robust, subparallel, black to piceous-black throughout, the elytra and entire abdomen pale brownish-testaceous; lustre of the elytra rather strongly shining as in *punctatus*; pubescence long, dense and pilose on the pronotum, rather long subrecumbent dense and conspicuous on the elytra, pale throughout. *Head* rather small, the antennæ (male) very long and slender, much longer than the body, the third joint slightly shorter than the prothorax. *Prothorax* coarsely, extremely densely punctate, with a small indefinite median spot which is sparsely punctate; lateral tubercles moderate; disk (male) one-half wider than long, the apex distinctly narrower than the base. *Elytra* at base distinctly wider than any part of the prothorax, two and one-third times longer than wide, rounded behind, each elytron very narrowly feebly sinuate at the suture; sides rather strongly convergent from base to apex; disk very coarsely punctate, the punctures becoming smaller but extremely dense toward apex, the three fine lines distinctly traceable. *Legs* black, the anterior and intermediate very short, with the tarsi dilated, the posterior much longer, with the tarsi two-thirds as long as the tibiae, robust, the second joint nearly one-half longer than wide. Length 14.0 mm.; width 4.5 mm.

#### Washington State.

A single male example from the Levette cabinet. This species is intermediate between *punctatus* and *intermedius*, possessing the black legs and antennæ and robust tarsi of the former, and the long slender antennæ of the latter; it is however abundantly distinct from either. The male is much stouter than the corresponding sex



of *intermedius*, and, in the latter, the posterior tarsi are very short but slender, with the second joint not longer than wide.

**C. nitidicollis** n. sp.—Slender, strongly convex, subcylindrical, strongly shining throughout, intense black, the median parts of the metasternum and the abdomen pale rufous; elytra very pale flavate, with a slender fusiform sutural space black; pubescence rather short and sparse, slightly longer and more erect on the pronotum. *Head* small; antennæ (male) fully one-third longer than the body, slender. *Prothorax* two-fifths wider than long, strongly convex and coarsely, not very densely punctate, the apex truncate, much narrower than the base, lateral tubercle small but distinct. *Elytra* two and three-fourths times longer than wide, at base equal in width to the widest part of the prothorax, the sides very feebly convergent thence to the apex, each elytron narrowly and almost evenly rounded behind; disk very coarsely, deeply punctate, the punctures well separated toward base and becoming finer but not much closer toward apex. *Legs* slender; hind tarsi three-fourths as long as the tibiæ, with the second joint a little longer than wide. Length 10.5–12.5 mm.; width 3.3–3.8 mm.

Arizona (Tuçson). Mr. Wickham.

This species is allied somewhat to *pulchellus*, but differs conspicuously in many characters as detailed in the synoptic table; in addition it may be noted that the prothorax is larger and longer than in *pulchellus*, with the extremely slender and acute lateral prolongation of the basal angles much more conspicuous. It is represented before me by four specimens all of which are males. The male appears to be more abundant than the female in all of the species of this genus.

### SPHÆNOTHECUS Dup.

*Ischnocnemis* Lec. nec Thoms.

The Mexican species allied to this genus form a very perplexing mixture, and I have several in my cabinet which cannot be satisfactorily assigned to any of the described genera. The parts most useful in generic identification are the mesosternum, posterior tarsi and scutellum, but the last is probably much the least important of the three. The presence or absence of raised ivory vittæ is, as remarked by Mr. Bates, a character of subordinate import, and in *Sphænothecus* we have species with simple elytral disk like *suturalis*, others having raised costæ, and others again with simple narrow pubescent vittæ.

*Sphænothecus* is allied to *Mannophorus*, but differs in its protu-

berant and anteriorly vertical mesosternum and generally longer, more finely attenuate scutellum. The true *Ischnocnemis* has the mesosternum non-protuberant.

Our three species may be separated by the following table:—

|  |                        |
|--|------------------------|
| Elytra with raised ivory vittæ.....  | <b>bivittatus</b> Dup. |
| Elytra simple, without raised lines or pubescent discal vittæ, the suture alone narrowly and very evenly vittate, the vitta composed of extremely dense white pubescence.  |                        |
| Piceous-black, the prothorax and femora rufous; elytral punctuation coarse, very sparse, evenly distributed, the pronotal punctures and pubescence not denser laterally.....   | <b>suturalis</b> Lec.  |
| Pale rufous throughout, the tibiæ and tarsi nigrescent; antennæ black, in the male fully twice as long as the body, in the female about as long as the body. Prothorax more transverse and less strongly narrowed anteriorly than in <i>suturalis</i> , the pubescence very dense toward the sides and apex as well as along the base. Elytra nearly as in <i>suturalis</i> , but more rapidly narrowed from base to apex, the punctuation coarse, sparse toward the sutural vitta, but thence dense, rugulose and intermingled with smaller punctures in a wide uneven longitudinal area extending almost to the sides, the pubescence longer and denser than in <i>suturalis</i> . Length 11.0–12.5 mm.; width 3.5–3.8 mm..... | <b>rubens</b> n. sp.   |

The male antennæ are always much shorter in *suturalis* than in *rubens*, and are generally not more than two-thirds longer than the body, the eyes also are more narrowly separated dorsally than in *rubens*. The three species agree in the form of the elytral apices which are strongly, very acutely dentiform but scarcely spinose externally. *Rubens* was obtained in great abundance by Mr. Dunn in various parts of southern Arizona and California, and *suturalis* by Mr. Wickham at Tucson.

#### STENOSPHEMUS Hald.

With the exception of *notatus* our species seem to be quite local in distribution; the following belongs near *lepidus* Horn:—

**S. longicollis** n. sp.—Slender, elongate, subparallel, polished, the elytra slightly less so than the prothorax and minutely evenly reticulate; body piceous-black, the femora red, picescent near the apex; prothorax red, clouded with piceous toward the sides; pro- and mesosterna red; pubescence coarse, moderate in length, sparse. *Head* finely, longitudinally canaliculate; antennæ (male) very slender, fully three-fourths longer than the body, joints three to five spinose internally at apex. *Prothorax* distinctly longer than wide; sides broadly, evenly arcuate, gradually convergent anteriorly and

abruptly so near the base which is much wider than the apex; disk widest at basal third, with a few fine, widely dispersed punctures toward the sides only. Scutellum small, rounded, densely flavo-pubescent. *Elytra* three times as long as the prothorax, and, at the base, one-fourth wider; sides feebly convergent and nearly straight from the humeri to apical fourth or fifth, then gradually more strongly convergent to the apex, each elytron being narrowly truncate, the truncation bisinuate and limited internally and externally by a minute acute dentiform process, which is not sufficiently elongate to be termed spinose; disk rather finely but deeply, sparsely, evenly punctate throughout, the punctures perforate and without trace of definite arrangement. Length 10.0 mm.; width 2.5 mm.

Texas.

A single male, probably received from Mr. Dunn, and without any more definite locality. It differs from *lepidus* in having the entire prosternum in front of the coxæ strongly depressed and coarsely densely punctato-rugulose, with the exception of a wide polished apical margin; in *lepidus* this space is divided by a polished longitudinal elevation, thus forming two depressed areas. *Longicollis* does not appear to be referable to any of the described Mexican species.

#### **XYLOTRECHUS** Chev.

The species *insignis* of LeConte, is remarkable for its pronounced sexual disparity. A few years since I took a series of six specimens from some low alder-like trees near the banks of the Trinity River, in Humboldt Co., California, which upon cursory examination seemed to represent a distinct species near *insignis*. Subsequently I received a number of specimens from other parts of the State.

The Humboldt specimens are uniformly pale in color, with the prothorax large and transversely subquadrate, and the markings indefinite and more or less confused with the ground color by dispersion of the pale hairs; upon close study all of these specimens prove to be males. The female, represented before me by three perfectly homogeneous examples, is black, and has the prothorax narrower and the markings always distinctly and abruptly limited.

Although such striking sexual differences are unusual or altogether unknown in our other species of this genus, it appears to be a more common condition in the allied Mexican genus *Ochræthes* Chev., a seemingly undescribed species of which, represented in my cabinet by a good series, having the markings suffused in the male but distinct in the female.

**THESALIA** n. gen.

This name is proposed for a small species, recently described by Mr. Leng (Ent. Amer., VI, p. 108) under the name *Acmæops lisa*. Briefly, its characters may be expressed as follows:—

Front before the antennæ nearly vertical. Antennæ long and slender, rather approximate and dorsal in their insertion. Eyes moderate, convex, with a small distinct but moderately deep sinuation. Neck strongly constricted, the constriction extending entirely across the dorsal surface. Legs moderate, the posterior tarsi rather short, densely pubescent beneath, the basal joint subequal in length to the next two together.

The genus *Thesalia* should be placed between *Leptalia* and *Encyclops* in our lists, and agrees with the former in most of its characters.

The prothorax differs greatly from either *Leptalia* or *Encyclops*, being long and slender, much longer than wide and narrower than the head, rather coarsely and sparsely punctate and not at all impressed or canaliculate along the middle. In *Encyclops cærulea* both the head and pronotum are dull and densely covered with a reticulation formed by fine strongly elevated lines.

I have before me a single representative of *Th. lisa* collected in Marin Co., California, by Mr. Dunn. It does not entirely agree with the description given by Mr. Leng, having the pronotum sparsely punctate toward the middle, without a well-defined impunctate area, the elytra black with the punctures throughout decidedly sparse as well as extremely coarse and deep, and with the sides feebly convergent from base to apex. The hind tarsi have the two basal joints densely pubescent beneath but not as densely so as the third, and are strongly fimbriate along the sides. The specimen here noted is probably the male of the original type, which is without doubt a female.

**CENTRODERA** Lec.

There is before me a specimen which I took on the summit of Mt. Diablo, near San Francisco, which is pale castaneous in color throughout and uniformly and sparsely pubescent. The length is 16.5 mm., and the prothorax is much longer than wide, strongly constricted at basal and apical fourth, with the apex much narrower than the base and the disk broadly, deeply impressed along the middle. The eyes are remarkably large and the antennæ are

slightly longer than the body, with the joints four to eleven pale testaceous toward base and black in apical third. I think that this is probably the male of *C. nevadica* Lec., which was described from a unique female.

### TOXOTUS Serv.

**T. lateralis** n. sp.—Rather short and stout, moderately shining, black throughout the body, legs and antennæ, the abdomen rufo-testaceous and the elytra with a pale narrow marginal vitta which does not quite attain the apex; pubescence short, cinereous, rather sparse, longer but not much denser on the prothorax. *Head* rather finely densely and confluent punctate, broadly tumid between the eyes, the latter rather large and convex; antennæ but just visibly shorter than the body, rather stout, compressed, the fourth joint nearly two-thirds as long as the third and about three-fourths as long as the fifth, the third joint three times as long as wide. *Prothorax* a little longer than wide, strongly constricted near apical third and basal fourth, the apex four-fifths as wide as the base, broadly arcuate; sides angularly tuberculate at the middle; disk finely, densely punctate, the punctures sparser in the apical constriction. *Elytra* at base nearly one-half wider than the prothorax, two and one-half times longer than wide, the sides very strongly convergent from base to apex and nearly straight; each elytron narrowly and obliquely truncate, the truncate straight, the outer angle acute, not rounded, the inner dentiform; humeri rather prominent, less than right, narrowly rounded; disk nearly flat, abruptly perpendicular at the sides, very finely, densely punctate and also with slightly larger widely dispersed punctures. Under surface punctured like the elytra, the abdomen more sparsely. *Legs* slender, moderate in length. Length 13.0 mm.; width 4.0 mm.

California (near San Francisco).

The single male specimen which I took at the summit of Mt. Diablo, represents a species somewhat allied to the eastern *trivittatus* Say (*vittiger* Rand.), but differing in its unusually long, and, at the same time, stout and compressed antennæ. The elytral truncate is as in *trivittatus*, but with the sutural tooth much larger and more conspicuous.

### ANTHOPHILAX Lec.

**A. subvittata** n. sp.—Moderately robust, rather convex, piceous-black; legs and antennæ piceo-testaceous; elytra pale luteo-testaceous, with a broad common sutural and narrow submarginal vitta of piceous-black, the vitta generally feebly marked and sometimes evanescent; pubescence extremely short and sparse, on the elytra consisting of very minute erect setæ borne from the punctures. *Head* finely, densely punctate, finely canaliculate between the antennæ, the latter three-fourths as long as the body, with the

third joint distinctly longer than the fourth but much shorter than the fifth. *Prothorax* slightly wider than the head and a little wider than long, the apex very slightly narrower than the base, both feebly arcuate; sides strongly, obtusely tuberculate at the middle; disk finely, densely punctate, scarcely at all impressed along the middle where the punctures are sometimes but not always sparser. *Elytra* at base not more than one-third wider than the prothorax, about two and one-third times longer than wide; sides distinctly convergent from base to the apex, which, conjointly, is broadly and evenly rounded; disk very coarsely and sparsely punctate toward base, the punctures becoming gradually fine toward apex and along the suture. Length 9.3–11.0 mm.; width 3.2–4.0 mm.

#### Colorado?

The five specimens before me are without definite indication of locality, but as they are from the Levette cabinet they were in all probability taken in or near the region above stated. These specimens are apparently all males, and the species appears to be related to *tenebrosa*, which is described from a unique female. I do not think however that *subvittata* can be the male of *tenebrosa*, for in that case the general direction of the sexual differences, as shown in *mirifica* by Dr. Horn, would be rather reversed, the elytra in the male of *mirifica* being almost impunctate, while in the female they are very coarsely so.

#### ACMÆOPS Lec.

The series in my cabinet seem to show that *A. subpilosa* is a species entirely distinct from *lupina*. The former is extremely sparsely punctate, the pubescence very easily removable, but denser and persistent in a very narrow line bordering the elytral suture, giving it a narrowly vittate appearance, while in *lupina* there is no indication of this sutural condensation, and the discal punctures are between two and three times as dense, the pubescence being much more persistent.

The species *longicornis* and *ligata* are perfectly identical, and the latter should be regarded as a synonym of the former, not a variety. *Gibbula* is a synonym of *proteus* and not a variety, as it is printed in our lists.

**A. variipes** n. sp.—Rather slender, strongly convex, shining, deep black; antennæ dark brown, with the basal joint darker and blackish; anterior legs throughout and the intermediate and posterior femora feebly and suffusedly near the coxæ only, pale rufo-testaceous; pubescence very short and sparse, longer on the anterior portions. *Head* about equal in width to

the prothorax, flattened above, rather coarsely, extremely densely punctate and dull; sides behind the eyes parallel for a very short distance, then rounded to the neck; tempora shorter than the eye; antennæ very slender, subequal in length to the body, third joint much shorter than the fifth and but slightly longer than the fourth, the fifth thicker toward apex than the others. *Prothorax* slightly wider than long, the apex broadly arcuate, three-fourths as wide as the base; sides strongly but evenly arcuate, sinuate near base and apex; disk narrowly impunctate but scarcely impressed along the middle, rather coarsely, very densely punctate, the punctures generally not in actual contact. Scutellum rather longer than wide, acutely rounded at apex. *Elytra* at base not quite one-half wider than the prothorax, two and one-half times as long as wide; sides rather strongly convergent from base to apex, the latter narrowly rounded, not at all truncate; disk very coarsely, deeply, not closely punctate, the punctures becoming slightly smaller but not denser toward apex, each bearing a very short coarse hair. *Legs* rather long and slender. Length 8.0-8.8 mm.; width 2.5-3.0 mm.

California (Sta. Cruz Co.).

This species is somewhat allied to *longicornis* and *basalis*, but differs in its shorter, more convex form, much coarser, sparser punctuation, shorter, sparser pubescence, and also in coloration; from *atra* it differs greatly in the parallel sides of the head behind the eyes, in the distinct basal constriction and prominent basal angles of the prothorax, and in its much more crowded pronotal punctuation.

A specimen from Nevada is nearly similar, but has the pubescence still more minute and the elytra parallel and scarcely more than twice as long as wide; this is probably the female of the above-described male.

### STRANGALIA Serv.

The sexual characters of this genus form an exceedingly interesting study, as they manifest themselves strongly and in several directions. The fifth segment of the male is sometimes very large, dilated and strongly excavated beneath as in *virilis*, and, to a less degree, *strigosa*; in addition it will be noticed that this segment is also invariably impressed or excavated beneath toward tip in the female as well as the male, and in *sexnotata* the impression is quite as deep in the former as in the latter sex, and involves even more of the surface of the segment.

The community of impressions and excavations of the fifth ventral segment to both male and female is noticeable in many parts

of the Heteromera, and I have alluded to it before under the genus *Blapstinus* (Ann. N. Y. Acad., V, p. 418). It is probable that this fact has a more far-reaching import than may be apparent to us at present.

The antennæ of the male have, on the side at the apex of each of the outer joints, a large elongate-oval depressed area which is glabrous, but over which there are generally scattered a very few coarse spinose setæ. These sensory depressions are usually much less developed in the female than in the male, and are sometimes almost obsolete in that sex; they vary slightly in form and depth in the various species.

I take the present occasion to call attention to a species allied to *sexnotata*, which may be described as follows from the female:—

**S. montana** n. sp.—Moderately robust, rather dull and alutaceous in lustre, pale rufo-testaceous throughout, the tarsi and three or four terminal joints of the antennæ picescent; elytra each with three black spots arranged as in *sexnotata*; pubescence rather short, coarse and sparse. *Head* finely, very densely punctate, a posteriorly angulate area immediately behind the epistoma impunctate and highly polished; epistoma and labrum finely, sparsely punctate and shining; antennæ (female) two-thirds as long as the body, stout, cylindrical, the joints compactly joined toward apex and without trace of sensitive apical areas, third joint one-half longer than the fourth. *Prothorax* fully as long as the basal width, finely, strongly constricted just behind the apex, the latter truncate and less than one-half as wide as the base, the latter broadly bisinuate; basal angles laterally produced, acute and prominent; sides broadly sinuate toward base; disk immaculate, evenly convex, rather coarsely and sparsely punctate. *Elytra* at the humeri quite distinctly wider than the prothorax, nearly three times as long as wide, the sides strongly convergent from the rounded humeri to the apex; each elytron truncate at apex, the truncation but slightly oblique; disk rather coarsely, sparsely punctate. Under surface finely, sparsely punctate and pubescent. Length 12.5 mm.; width 3.5 mm.

New Mexico (Las Vegas). Mr. Meeske.

Immediately distinguishable from the female of *sexnotata* by the truncate apices of the elytra, and stouter antennæ; the antennæ and greater part of the legs are black in *sexnotata*, but two specimens before me from Texas seem to indicate that they may occasionally become pale throughout, this not being a character of great importance. The elytra toward apex are much less dehiscent in *montana* than in *sexnotata*, and the surface in the former is less shining and more finely punctate.



**OPHISTOMIS** Thoms.

The species recently described by Bates (Biol. Cent.-Amer. Col., V, p. 39) as *lævicollis* is represented before me by three specimens, perfectly homogeneous as regards color, and belonging to the variety designated "6" (l. c., page 279). These specimens were formerly included in the Levette cabinet, and are labeled "Arizona." This is therefore one of those tropical species of exceptionally extended northern distribution, of which *Xystropus californicus* Horn, is another notable example.

The elytra in *O. lævicollis* are obliquely and rather widely truncate at apex, the line of truncation straight and the outer angle very acute but not appreciably produced. The elytral punctuation varies considerably in density, but is generally finer and confused toward apex and very coarse and sublinate in distribution toward base. The humeri in the specimens alluded to are clouded with reddish-testaceous. The intermediate tibiæ are quite distinctly clavate.<sup>1</sup>

**LEPTURA** Serv.

A specimen of *nigrella* Say, from Colorado, before me, has the elytra bright red throughout, with the exception of a narrow and even black marginal vitta in apical third.

The three following species appear to be new:—

**L. serpentina** n. sp.—Rather slender and convex, feebly shining, black throughout, the legs and antennæ generally pale; pronotum with the apical and basal margins bright sulphureo-pubescent; elytra each with four transverse bands of the same color, one at the base just behind the scutellum narrowly interrupted at the suture, the second just before the middle, third at posterior third, and the fourth near the apex; under surface clothed with yellow pubescence, the abdominal segments more distinctly so near the apex

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<sup>1</sup> Some time after the above paragraphs were written, I sent one of these specimens to Mr. Bates, and take the liberty of quoting the following lines from the very courteous letter recently received in reply:—

"I have examined your Ophistomis, supposed to be from Arizona, and find it cannot be specifically distinguished from *O. lævicollis*. The punctuation is a little more sparse, but a rather more important difference is the relative greater length of the elytra, and the shorter outer acute angle of the truncature. I do not consider these differences specific, but note them only as some evidence that the specimen comes from a different locality from those recorded in the *Biologia*, i. e., Oaxaca to Panama."

and sides. *Head* finely, densely punctate; antennæ (male) nearly as long as the body, slender, filiform, the third joint much longer than the fifth, the latter distinctly longer than the fourth, (female) nearly three-fourths as long as the body, with the joints proportioned nearly as in the male. *Prothorax* about as wide as long, campanulate, with the sides inflated and broadly subangulate before the middle, the basal angles acute and strongly produced outwardly and posteriorly; disk almost evenly convex, with a small impunctate vitta near the base, rather strongly and somewhat sparsely punctate in the male, densely so in the female. *Elytra* at base distinctly wider than the prothorax, a little more than twice as long as wide; sides moderately convergent (male), or very feebly so (female); apex narrowly and evenly truncate, the truncation but slightly oblique; disk strongly, rather densely punctate (male), or extremely densely and more finely so (female). *Legs* rather long and slender. Length 7.0–11.0 mm.; width 2.0–3.3 mm.

Idaho.

Greatly resembles *tribalteata* Lec., and differs from that species in much the same way that *nitens* Forst. (*zebra* Oliv.) does from *læta* Lec. The form in the male is more slender than in *tribalteata*, with the elytra less strongly narrowed from base to apex, and with the apical truncation much less oblique; the antennæ are much longer and more slender, and the third joint is distinctly shorter in comparison with the next two; the dorsal punctuation is coarser, deeper and sparser in the male but rather denser in the female, and the transverse bands of the elytra are much narrower. The antennæ are always pale in *serpentina* and intense black in *tribalteata*, and the head and eyes are smaller in the former than in the latter.

**L. haldemani** n. sp.—Slender and rather convex, intense black throughout the body, legs and antennæ, the elytral humeri obliquely red; lustre moderately shining; pubescence short, sparse and inconspicuous. *Head* wider than long, the tempora and base nearly as in *sanguinea*; surface flat, very densely punctate; antennæ (male) nearly as long as the body, rather stout. *Prothorax* much longer than wide, as in *sanguinea*, but much less inflated or subangulate at the middle; disk rather coarsely, deeply and extremely densely punctate, the punctures in close mutual contact, without distinct median impunctate line except very narrowly toward base, the line generally with a very fine impressed stria. *Elytra* between two and three times as long as wide, at base nearly one-half wider than the prothorax, the humeri rounded but rather prominent; sides evenly and rather strongly convergent from base to apex and straight; each elytron narrowly truncate at apex, the truncation slightly oblique and straight or extremely feebly sinuate, the angles obtuse; disk not very coarsely or densely punctate, the punctures deep and perforate toward base, becoming finer and more or less asperate

toward apex, sometimes with traces of two narrow impunctate lines toward base. Under surface very finely and densely punctate, more conspicuously pubescent. Length 9.0-10.5; width 2.5-3.0 mm.

New Mexico.

The two specimens are males, and are from the Levette cabinet. The species is allied to *sanguinea*, but differs greatly in coloration and punctuation, and in the more narrowly and obliquely truncate elytral apices. The red humeral maculation is similar in form to that of *Acmæops basalis*.

**L. lacustris** n. sp.—Body, legs and antennæ entirely black, the elytra pale brownish-testaceous, sometimes feebly infuscate near the apex; lustre moderately shining; pubescence moderately long, very short on the elytra.

*Male*.—Slender, very convex. *Head* wider than long, the sides behind the eyes parallel for a short distance; hind angles right and narrowly rounded; surface feebly convex, densely and rather coarsely punctate; antennæ three-fourths as long as the body, rather stout. *Prothorax* as in *sanguinea*, rather coarsely, deeply, very densely punctate, with a narrow impunctate median line, the punctures nearly but not quite in mutual contact, the interspaces polished. *Elytra* two and one-half times as long as wide, at base one-third wider than the prothorax; sides gradually and distinctly convergent from base to apex, the latter very narrowly and obliquely truncate, the truncation deeply sinuate; disk rather densely and strongly punctate, the punctures becoming slightly finer toward apex. Length 9.0-11.0 mm.; width 2.8-3.6 mm.

*Female*.—Moderately slender, smaller than the male, the upper surface much less convex. *Head* similar in form to that of the male, but with the surface very finely and excessively densely punctate and dull; antennæ scarcely more than one-half as long as the body, very slender. *Prothorax* similar in form to that of the male, but with the surface extremely densely punctate, and without trace of median impunctate line, the punctures scarcely smaller than in the male and very much larger than those of the head. *Elytra* scarcely more than twice as long as wide, at base rather more than one-third wider than the prothorax, the humeri distinctly rounded but much more prominent than in the male; sides almost parallel, feebly convergent toward apex, the apical truncation as in the male; disk very coarsely, deeply, densely punctate, the punctures becoming much finer toward apex, coarser toward base than those of the male. Length 7.8-9.0 mm.; width 2.5-3.0 mm.

Michigan (Marquette). Mr. Schwarz.

This species is allied to *sanguinea* Lec., but differs in the much stouter male antennæ and in the radically different truncation of the elytral apices; the latter in *sanguinea* is rather broad, scarcely at all oblique, and is almost perfectly straight, the angles being blunt; in *lacustris* it is very much narrower, oblique, deeply sinuate and with the angles, especially the exterior, very acute and prominent,

nearly as in *canadensis*. The sexual differences throughout the body are extremely and unusually marked, and in the series before me, the females are decidedly smaller than the males.

#### IPOCHUS Lec.

The chief differences between this genus and *Moneilema*, apart from the tribal characters relating to the support of the labrum and size of the body, are the shorter and broader front, presence of long tactile flying hairs on the body legs and antennæ, and the great divergence in form of the sexes. The last of these is one of the most remarkable of the generic peculiarities of *Ipochus*, the male being slender, strongly convex, with oval elytra, subglobular prothorax and constricted neck, and the female more robust, subparallel, the prothorax transversely subquadrate and the neck scarcely at all constricted, the head being more deeply inserted. It will be observed therefore that the sexual differences are directly the reverse of those of *Moneilema*, in which, when these are at all pronounced, the male is more robust parallel and compact than the female, and with a larger prothorax.

The following species are indicated by the material at hand :—

Elytra with three transverse, irregular and more or less narrow fasciæ, the first near the base, the second at apical third (viewed vertically), and the third on the apical declivity, extending semi-circularly from the side margins, crossing the suture midway between the second band and the apex; recumbent pubescence rather sparse; pronotum very coarsely, deeply and not closely punctate, with two pairs of small discal pubescent spots. Elytra broadly, deeply sinuate at apex when viewed along the longitudinal axis of the body. Length 4.5 mm.; width 2.0 mm. (San Diego).....**fasciatus** Lec.

Elytra with two more or less narrow transverse fasciæ, which are irregular and zigzag in form, the first at the base, the second at apical fourth (viewed vertically); in addition a small elongate-oval sutural spot near the apex on the declivity. Body sparsely pubescent, the pronotal punctures coarse, moderately close, distinct, the integuments shining. Head finely, sparsely punctate; antennæ about as long as the body, the outer joints feebly annulated at base. Prothorax one-fourth wider than long, the sides rounded, more convergent toward base, the latter much narrower than the apex; discal pubescent spots evanescent, the fine pubescence very sparse, short and inconspicuous. Elytra one-third longer than wide, in the middle one-third wider than the prothorax; sides rounded, the apical portion of the disk perpendicular and deep; apex not appreciably emarginate when viewed longitudinally. Abdomen sparsely pubescent.

Length 7.0 mm.; width 3.4 mm. (female); in the male the length is 5.0-7.0 mm.; width 1.6-2.2 mm. (Los Angeles.)....**subnitidus** n. sp. Elytra each with two transverse fasciæ, the first subbasal, the second very wide, with uneven margins, extending from the middle to the apex (viewed vertically) and with a prolongation posteriorly along the suture. Body robust, compact, the head and pronotum extremely densely pubescent, the vestiture completely concealing the surface lustre and punctation, the elytra slightly shining and less densely pubescent. Head rather strongly, somewhat closely punctate; antennæ nearly as long as the body, the outer joints scarcely annulate at base. Prothorax fully one-third wider than long, the base much narrower than the apex; disk with two pairs of small discal pubescent spots, and another which is median and more posterior. Elytra two-fifths longer than wide, behind the middle but little wider than the prothorax; apex broadly, feebly, subangularly emarginate (viewed longitudinally); sides very feebly arcuate; disk finely, very sparsely punctate. Abdomen densely pubescent. Length 7.5 mm.; width 3.2 mm. (San Diego.).....**pubescens** n. sp.

The species above identified as *fasciatus* agrees in every particular with the type in the LeConte cabinet.

All the characters of the above diagnoses are taken from the female, except when otherwise noted. Two males which I obtained from the blossoming branches of the Monterey pine, near the town of that name, seem to indicate another species, which the absence of the female prevents me from describing at present. Another specimen from San Diego, resembles *subnitidus*, but is still more shining and sparsely pubescent, and has a large impunctate median area of the pronotum, which is finely and deeply canaliculate; it is probable also that this is a distinct species, but more confirmatory material is necessary.

#### **MONEILEMA** Say.

The following species belongs to the subgenus *Collapteryx* as defined by Dr. Horn:—

**M. spinicollis** n. sp.—Moderately robust and convex, the elytra subcarinate at the sides toward base, black, rather strongly polished, glabrous. *Head* with a few fine punctures beneath the eyes and antennæ, impunctate toward the middle, the front separated from the epistoma by a deep transverse impression; antennæ three-fourths as long as the body, with the fourth joint alone annulate at basal two-fifths; scape very long and thick, with a few fine widely dispersed punctures. *Prothorax* strongly transverse, from one-third to nearly one-half wider than long, the base and apex equal in width, feebly arcuate; sides parallel, feebly arcuate, the spine long, acute, directed upward and backward; disk evenly convex, with a more or less incomplete and very

fine stria along the middle, the punctures very fine and widely dispersed, but coarse and deep along the basal margin and on the flanks beneath the spine. *Elytra* oval, from two-thirds to once longer than wide, the sides arcuate but sometimes almost straight and parallel, scarcely wider than the prothorax in the male but distinctly so in the female, very coarsely and sparsely punctate in scarcely more than basal half. Posterior tarsi as in *armata* in form, but with the second joint densely spongy-pubescent throughout, except along a median line which becomes broad at base, the basal joint sometimes with a small spot of dense yellow spongy-pubescence at each apical angle. Length 23.0–29.0 mm.; width 9.0–11.5 mm.

#### Arizona.

Four specimens from the Levette cabinet. This species differs from *gigas* in its much shorter and more transverse prothorax and smaller size, and from *armata* in the much longer and thicker antennal scape, longer thoracic spines and in the more spongy pubescent second joint of the hind tarsi. It should be placed immediately after *gigas* in the catalogue.

The ashy pubescence of the fourth antennal joint forms a narrow band extending from basal sixth or seventh of the length to about the middle.

### PSENOCERUS Lec.

The two species contained in my cabinet may be recognized as follows:—

*Elytra* each strongly tumid on the disk near the base; body ferruginous, the *elytra* each with an oblique subinterrupted fascia at the middle and a broader transverse spot near apical third white, the portion between the two fasciæ blackish ..... **supernotatus**  
*Elytra* but very feebly tumid near the base; body piceous-black throughout, the *elytra* with a transverse interrupted fascia of white pubescence at apical third..... **tristis**

In both of these species the scutellum is clothed with dense white pubescence.

**P. tristis** n. sp.—Form nearly as in *supernotatus*, feebly shining; pubescence rather sparse and inconspicuous. *Head* finely but deeply and very densely punctate; antennæ scarcely three-fourths as long as the body, cylindrical, the third and fourth joints elongate and subequal, joints five to eleven shorter and becoming still shorter near the apex, the joints compactly joined. *Prothorax* slightly wider than long, strongly constricted near the base; apex much wider than the base; sides nearly parallel in apical two-thirds; disk evenly convex, rather coarsely, deeply, extremely densely punctate. *Elytra*

parallel, distinctly wider than the head and prothorax, and a little more than twice as long as wide; humeri right and rather prominent; apex evenly rounded; disk coarsely punctate, the punctures not quite in mutual contact, and, between the fascia and extreme apex, becoming very sparse. Under surface finely, densely punctate throughout and finely, inconspicuously pubescent. *Legs* moderate; tarsi short and stout. Length 4.5 mm.; width 1.2 mm.

New Mexico?

A single representative, the habitat of which is somewhat doubtful. The species is easily distinguishable from *supernotatus* by the characters given in the table. The basal tubercles of the elytra, so distinct in *supernotatus*, are barely perceptible in *tristis* as broad and feeble swellings of the surface.

#### MONOCHAMUS Serv.

**M. obtusus** n. sp.—Stout, subparallel, moderately convex, brown throughout and marmorate nearly as in *titillator*. *Head* deeply angularly impressed between the antennæ; front shining, sparsely pubescent, finely, sparsely and unevenly punctate; antennæ (male) two-thirds longer than the body, slender, not at all annulate, (female) but slightly longer than the body, distinctly annulate. *Prothorax* slightly wider than long, the lateral spines well developed; disk shining, coarsely, confluent punctate, transversely rugulose anteriorly, with an oblong impunctate median area; pubescence moderately conspicuous, feebly and minutely marmorate laterally, with two distant, discal spots before the middle. Scutellum glabrous, pubescent at base especially toward the sides. *Elytra* scarcely more than twice as long as wide, parallel in basal half in the male and basal two-thirds in the female, at base distinctly wider than the prothorax, the apices individually rounded, broadly so in the female, a little less broadly in the male; disk very coarsely punctato-rugulose toward base, sparsely and more finely punctate thence to the apex. *Abdomen* densely pubescent, the pubescence whitish and finely, unevenly marmorate or nucleated. *Legs* rather short and moderately slender. Length 13.0–19.0 mm.; width 4.7–6.8 mm.

California.

This species is not at all closely related to any other hitherto described. In general it resembles *titillator*, but is smaller, shorter and broader, with the apical angles of the elytra broadly rounded even in the males. In the recent table given by Dr. Horn it may be placed between *scutellatus* and *confusor*. The scutellum, which is pubescent only toward the sides of the base, will readily serve to distinguish it from any other of our species, and from *oregonensis* it may be known by its rounded elytral apices, scutellum and coloration. It is represented before me by a good series of six specimens collected near the northern boundary of the State.

**LEIOPUS** Serv.

**L. setipes** n. sp.—Moderately robust, convex, piceo-testaceous, densely clothed with dark luteous pubescence, devoid of fasciculate tufts of coarser hairs, and with an anteriorly angulate white fascia behind the middle, also a very feebly defined paler oblique line on each elytron near the apex. *Head* extremely minutely, densely punctate when denuded; eyes separated above by a distance which is scarcely more than one-half as great as in *wilti*; antennæ slender, two-fifths longer than the body, nearly as in *wilti*. *Prothorax* one-half wider than long, four-fifths as wide as the elytra, rather finely and closely punctate, the pubescence very indefinitely variegated; lateral spine short but not at all blunt, just behind the middle, nearly as in *wilti*, but slightly more anterior in position. *Elytra* three-fourths longer than wide; sides nearly parallel in basal two-thirds, then oblique to the apex, each elytron narrowly and obliquely truncate; disk coarsely, deeply punctate when denuded, each elytron with a large lateral blackish semi-denuded spot, and three costiform lines along which the pubescence is more prominent, the recumbent pubescence unusually long; erect hairs short and very sparse. Under surface dark plumbeous, densely pubescent. *Legs* rather short and stout, throughout nearly as in *wilti*, but with long flying hairs on the tibiæ, especially pronounced on the posterior. Length 7.0 mm.; width 2.8 mm.

Texas (El Paso). Mr. Dunn.

This species in general appearance is intermediate between *alpha* and *wilti*, but is not closely related to any other form, the long flying hairs of the tibiæ being a very unusual character in *Leiopus*. In the present arrangement of the species it may be placed just after *punctatus*.

**L. mimeticus** n. sp.—Rather robust and convex; integuments rather pale rufo-testaceous, the pubescence short, luteo-cinereous, scarcely at all variegated on the prothorax, the elytra with very minute sparsely placed black fasciculate tufts, which are usually arranged in four or five rows on each, and, in addition, with an elongate blackish semi-denuded spot at the side, and an oblique black fasciculate and usually interrupted line near posterior third. *Head* extremely minutely, moderately densely punctate; eyes separated above as in *punctatus*; antennæ one-half longer than the body, annulate with black at the apex of each joint as usual. *Prothorax* rather short, three-fourths wider than long and four-fifths as wide as the elytra, evenly convex and pubescent, not distinctly punctate, the lateral spine very short and broad but not in the least rounded, situated just before basal third. *Elytra* four-fifths longer than wide, the sides subparallel in basal two thirds, then oblique to the apex, each elytron narrowly and obliquely sinuato-truncate; disk coarsely, deeply punctate when denuded. Under surface very finely, densely, uniformly pubescent. *Legs* short, maculate, the femora strongly clavate; tibiæ without long flying hairs; tarsi short and robust. Length 4.5–6.5 mm.; width 1.8–2.6 mm.



Texas; District of Columbia.

A small, robust and convex species, with unusually short, even and pale pubescence, and bearing a striking resemblance to *Leptostylus biustus*. It is rather closely related to *Leiopus crassulus*, from Lower California, but is well distinguished by its more elongate and convex form, longer and denser pubescence, and especially by the form of the elytral apices, which are here obliquely and strongly truncate, but evenly rounded in *crassulus*. This species has been described by Dr. Horn (Tr. Am. Ent. Soc., VIII, p. 125), and somewhat doubtfully referred to *L. crassulus*, but I think that the form of the elytral apices will conclusively distinguish them.

It is scarcely possible to divide our species of *Leiopus* generically upon the presence or absence of fasciculate tufts on the elytra, and, as there is but little difference in the degree of separation of the middle coxæ, the mesosternum being rather broad throughout, it seems probable that all of our species will have to be assigned to *Eleothis* as recently defined by Mr. Bates, or, perhaps more justly, the genus *Sternidius* Lec. should be revived for these species, in which case *Eleothis* would become synonymous.

#### VALENUS n. gen.

Body oblong, depressed, minutely, sparsely pubescent and with long erect sparsely placed flying hairs. Head vertical; front subquadrate, transverse, finely carinate along the coriaceous support of the labrum; mandibles small; palpi slender, unequal, the terminal joints slender and gradually acuminate, second joint of the labial robust, the third oblique and much narrower; mentum small, transverse, very deeply inserted and inwardly oblique; eyes deeply emarginate, moderately finely granulate; antennæ inserted at the sides within the ocular emarginations, widely distant at base, slender, minutely, rather densely pubescent, the first three or four joints with a single series of short, spinose setæ beneath, scape long, slender, cylindrical, without trace of apical cicatrix. Prothorax obliquely spinose at the sides behind. Elytra not carinate at the sides. Anterior coxæ not appreciably angulated externally, the middle cavities distinctly open, narrowly separated. Legs slender; femora feebly clavate; tarsi short, robust, the basal joint of the posterior slightly longer than the next two combined; claws divaricate, small.

This genus belongs near *Lepturges* and is apparently still more closely allied to the Central American *Phrissolaus* Bates, differing from the latter in its much shorter antennæ, depressed form, rounded elytral apices and more normal abdominal structure, the fifth segment of the male being only as long as the two preceding together and obtusely sinuate at apex.

There is an element of uncertainty as to the proper position of Valenus, however, owing to the fact that the only known representative is a male, but if the female proves to have an elongated fifth segment, it can only be compared with *Astynomus*, and from this it departs widely in its spinose and not tuberculate prothorax.

**V. inornatus** n. sp.—Moderately robust, feebly shining, dark rufotestaceous above, much paler beneath, the color of the integuments not at all concealed by the extremely minute, rather sparse and inconspicuous vestiture, the long flying hairs of the elytra rigid and setiform. *Head* extremely minutely, densely but feebly punctate; antennæ about one-third longer than the body, slender, the scape thicker but not at all clavate, as long as the next two combined, joints three to eleven gradually decreasing in length. *Prothorax* fully one-half wider than long, distinctly wider than the head and two-thirds as wide as the elytra; base and apex transverse, the former distinctly the narrower; sides broadly arcuate anteriorly, obliquely and acutely spinose at basal third, disk very unevenly and sparsely punctate, almost impunctate toward the sides. *Scutellum* rather large, broadly rounded behind. *Elytra* parallel, the sides straight, three-fourths longer than wide, broadly rounded behind, each elytron narrowly rounded at apex; disk coarsely and rather closely punctate toward base, the punctures becoming sparser and finer toward apex; punctures bearing the flying hairs small and inconspicuous; surface even. Under surface pruinose with dense, extremely minute pubescence. Length 9.0 mm.; width 3.3 mm.

Texas (El Paso). Mr. G. W. Dunn.

Resembles an unusually large robust *Lepturges*, but with much less conspicuous pubescence than in the species of that genus, and without trace of any kind of maculation.

#### HYPERPLATYS Hald.

Our species of this genus are closely allied among themselves, but may possibly be recognized by the following table:—

Body black throughout; antennæ black; femora red, black toward apex.

**femoralis** Hald.

Body paler, clothed above with cinereous pubescence, maculate with small black spots; antennæ in great part pale.

Prothorax but feebly transverse, one-half wider than long; femora red, the apices black.....**nigrella** Hald.

Prothorax strongly transverse, at least three-fourths wider than long.

Elytral spots large and more or less unevenly arranged; elytra unusually coarsely punctate; antennæ of the male about twice as long as the body.....**maculata** Hald.

Elytral spots small, more or less distinctly arranged along three even lines on each elytron, the lines more or less pale; antennæ of the male much more than twice as long as the body.

Elytra coarsely punctate, the punctures distinct.....**aspersa** Say.

Elytra finely punctate, the punctures almost completely concealed by the vestiture; elytral lines very indistinct. Body moderately robust, pale rufo-testaceous throughout, the pubescence short, very dense, pale cinereous-white, the elytral spots small, sometimes with a larger more irregular discal blotch at apical third, the pronotum with four spots in an arcuate line, the two median larger. Head and antennæ nearly as in *aspersa*. Prothorax acutely, obliquely spiculate at the sides at basal fourth or fifth. Elytra twice as long as wide, in form throughout nearly as in *maculata*. Legs pale testaceous throughout, the tarsi alone darker. Length 4.7-6.5 mm.; width 1.8-2.4 mm. (California, Sta. Cruz Co.).....**californica** n. sp.

The species above identified as *nigrella* seems to be abundantly distinct from *maculata* in its much longer male antennæ, and from *aspersa* in its more elongate prothorax and more finely and sparsely punctate elytra, the sides of the latter being much more convergent from base to apex in the male, and with more prominent and less rounded humeri. In *aspersa* the three discal vittæ of the elytra are nearly always very distinct and generally conspicuous, and by this characteristic it can be separated at once from the other species.

Anisopodus White is possibly synonymous with *Hyperplatys*, at least the elongation of the posterior legs appears to be so gradual as to cause great confusion in attempting to limit the former genus.

**SPALACOPSIS** Newm.

The species of this remarkable genus which have been discovered within our faunal limits, may be distinguished as follows:—

Scutellum small, not longer than wide, rounded or feebly bilobed behind; elytra parallel.....**stolata**

Scutellum triangular, not longer than wide.

Elytra subparallel, with even rows of coarse and distinct punctures, without denuded spots; scutellum wider than long; size small.....**suffusa**

Elytra inflated behind, with the punctuation close and almost confused, and with large uneven semi-denuded spots; scutellum small, equilateral-triangular; size larger.....**texana**

**S. texana** n. sp.—Slender, cylindrical, distinctly inflated behind the middle of the elytra, densely clothed throughout with rather long recumbent luteo-cinereous pubescence, and with extremely short erect sparse setæ. *Head*

two-thirds longer than wide, nearly as in *suffusa*, the antennæ a little shorter than the body, the scape one-half longer than the prothorax. *Prothorax* two-fifths longer than wide, equal in length to the head, cylindrical, the sides parallel; surface densely and evenly pubescent, with a small narrow denuded median area. *Elytra* between four and five times as long as the prothorax, equal in width to the latter toward base but two-thirds wider behind the middle, then narrowed to the apex which is deeply, triangularly emarginate, the processes acute but blunt at apex and feebly everted; disk coarsely, deeply, rather closely punctate, the punctures and pubescence having a vaguely lineate disposition, with large uneven semi-denuded blotches. Length 9.7 mm.; width 1.3 mm.

Texas.

Differs greatly from the Mexican *protensa* and *variegata* in its small equilateral scutellum, and from *suffusa* and *phantasma* in its larger size and from the latter in addition in the absence of long curved rigid setæ. From the eastern *stolata* and Cuban *grandis* it differs in its convex and not flattened elytral disk, and from the Cuban *flum* in its non-sulcate elytra. The semi-denuded blotches of the elytra are sparsely scattered, but slightly darker in color, and are broad and very irregular and not linear as in *stolata*.

## TENEBRIONIDÆ.

### STIBIA Horn.

The following species belongs near *ovipennis*, but differs greatly in the structure of the eyes:—

**S. maritima** n. sp.—Moderately robust, strongly convex, polished, brownish-testaceous in color, glabrous. *Head* finely, rather densely punctate and finely, longitudinally subrugulose; antennæ two-fifths as long as the body, very slender, feebly clavate at apex, third joint one-half longer than the fourth, the latter equal in length to the second; eyes moderate, feebly and evenly convex. *Prothorax* two-thirds wider than long, the base and apex equal, the former feebly arcuate, the latter correspondingly emarginate; sides parallel, evenly and distinctly arcuate; apical angles acute but not produced; disk evenly convex, deeply, moderately coarsely punctate, the punctures tending to coalesce longitudinally toward the sides, sparser toward the middle. *Elytra* one-third longer than wide, oval, in the middle one-half to three-fourths wider than the prothorax; sides strongly arcuate throughout, the humeri not evident; apex acute; disk with approximate rows of fine, rather feeble punctures in basal three-fifths only. *Abdomen* minutely, extremely sparsely punctate, the metasternum very coarsely, rather closely so, the prosternum rather coarsely and very densely. *Legs* slender. Length 3.3–3.7 mm.; width 1.6–1.9 mm.

California (San Diego Co.). Dr. F. E. Blaisdell.

A single pair taken on the sea-beach at Coronado.

In *ovipennis* the color is black, the size larger, the form much more robust, the third antennal joint longer, the eyes smaller and very much more convex and prominent, especially behind, and the elytral punctures larger and stronger.

### EPITRAGUS Latr.

**E. vestitus** n. sp.—Rather broadly oval and convex, polished, with a strong æneous tinge; pubescence moderately dense, subrecumbent, pure white in color and conspicuous, the hairs robust, pointed, rather long, arcuate and more or less matted. *Head* coarsely, rather densely punctate laterally, sparsely so toward the middle, the median lobe large, rounded; supra-orbital ridges obsolete; antennæ piceous, moderate in length. *Prothorax* two-fifths wider than long, the sides moderately narrowed from base to apex, feebly arcuate, the apex broadly emarginate, angles right, narrowly rounded and not at all prominent; base broadly, strongly bisinuate; disk evenly convex, feebly bi-impressed at base, rather coarsely, moderately densely punctured laterally, the punctures becoming finer and sparser toward the middle, with a narrow impunctate median line. *Elytra* two-thirds longer than wide, in the middle one-third wider than the prothorax, at the broadly rounded humeri slightly wider than the thoracic base; sides feebly arcuate, oblique behind, the apex narrowly rounded; disk finely, sparsely punctate, with irregular longitudinal impunctate areas toward the suture, the punctures becoming dense laterally and especially coarse, dense and rugulose near the margins toward apex, the surface longitudinally swollen near the suture toward apex. Under surface finely, rather sparsely punctate and distinctly pubescent. Mesosternum deeply excavated. Length 12.0 mm.; width 5.2 mm.

#### Arizona.

A single specimen from the Levette cabinet, which is probably a male. The type appears to be analogous in general form to the males of those species having the pronotum simple in both sexes, and for the present it may be placed near *pruinus*, being readily distinguishable by its robust form, bright metallic subæneous lustre and long conspicuous white pubescence.

The species of *Epitragus* within our boundaries may be identified as follows:—

Sides of the front angulate and reflexed; prothorax much narrower than the elytra, the humeri broadly exposed .....**submetallicus**  
Sides of the front not prominent or angulate; median lobe large, rounded.

Pronotum simple in the male, more-or less bicarinate in the middle toward apex in the female.

- Thoracic carinæ of the female divergent anteriorly .....**acutus**  
 Thoracic carinæ parallel.  
 Larger species ; punctuation dense .....**canaliculatus**  
 Smaller and less robust, the punctuation fine and sparse ; lustre strongly  
 aneous .....**arundinis**  
 Pronotum similar in the sexes and unmodified.  
 Elytra dentate at apex ; pubescence uneven in distribution ...**dentiger**  
 Elytra unmodified at apex, the pubescence even in distribution.  
 Apical angles of the prothorax very acute and anteriorly prominent.  
**fusiformis**  
 Apical angles right or obtuse, not anteriorly prominent.  
 Elytra rugulose ; prothorax rather strongly transverse.  
**plumbeus**  
 Elytra smooth, not at all rugulose, except occasionally toward the  
 sides.  
 Elytra very densely punctate throughout ; prothorax but very  
 slightly wider than long .....**ovalis**  
 Elytra sparsely punctate, at least toward the suture.  
 Elytra nearly glabrous, each puncture with an extremely minute  
 seta .....**pruinosis**  
 Elytra conspicuously pubescent, the pubescence white.  
**vestitus**

Although by the characters given, *ovalis* is brought very near to *plumbeus*, it is really quite distinct in general appearance from this and all the other species, being unusually short, oval and convex.

The material before me seems to indicate several closely allied species in the neighborhood of *canaliculatus*, one male, especially, has the punctuation very sparse throughout, with the apical angles of the prothorax not at all everted.

#### EPITRAGODES Cas.

This name was proposed (Ann. N. Y. Acad., V, p. 365) for the species known as *Epitragus tomentosus* Lec., the principal characters distinguishing it from *Epitragus* being the unexcavated mesosternum and the more or less seriate arrangement of the elytral punctures. I have recently received another species, the two being easily known by the following characters:—

Body rather densely pubescent, the pubescence unevenly marmorate.

#### **tomentosus**

Body glabrous, each puncture bearing an infinitesimal seta entirely concealed within it .....**jülichii**

**E. jülichii** n. sp.—Almost evenly elliptical, convex, black throughout with slight greenish-metallic lustre. *Head* rather coarsely, densely punctate throughout, the punctures becoming but slightly sparser toward the middle of the vertex; front trilobed, the median lobe longest, broadly rounded; supra-orbital ridge obsolete but slightly evident in front of the upper margin; antennæ about as long as the prothorax, joints six to nine serrate internally. *Prothorax* one-third wider than long, the apex subtruncate, scarcely more than three-fifths as wide as the base, the latter broadly, strongly lobed in the middle, feebly sinuate thence to the basal angles, which are right; apical angles obtuse but not at all rounded; sides broadly arcuate and subparallel in basal half, becoming more arcuate and convergent thence to the apex; disk not at all impressed, rather coarsely, very densely punctate, the punctures nearly in contact but distinct throughout in contour, becoming slightly sparser toward the middle, without an impunctate median line. *Elytra* at base but slightly wider than the prothorax, in the middle one-third wider, three-fourths longer than wide; sides arcuate, acutely ogival at apex; disk with almost even series of rather coarse approximate punctures, the series not at all impressed, the intervals unevenly, uniseriately or biseriately punctate. Under surface rather strongly punctate; mesosternum almost vertical anteriorly and completely unimpressed. *Legs* slender. Length 9.0 mm.; width 4.0 mm.

Texas.

The hind wings are as long as the elytra. Two specimens, probably from the neighborhood of Galveston, one of which I owe to the kindness of my friend Mr. Wilhelm Jülich.

#### ANEPSIUS Lec.

The two species known to me may be separated as follows:—

Antennæ much longer than the head; elytral punctures arranged in regular approximate series throughout.....**delicatulus**  
 Antennæ very short, not longer than the head; elytral punctures arranged serially only towards the sides.....**montanus**

**A. montanus** n. sp.—Robust, parallel, convex, polished, black throughout, the legs and antennæ dark rufo-testaceous; integuments glabrous, each puncture bearing an extremely minute seta. *Head* feebly convex, transverse, not very coarsely but strongly and rather densely punctate, the punctures rough or subgranulose; eyes completely divided; antennæ moderately robust and compressed, compact, the last joint not as long as wide and slightly narrower than the tenth. *Prothorax* three-fourths wider than long, the base and apex subequal, the former feebly arcuate, the latter very feebly, broadly sinuate; apical angles right, narrowly rounded; basal obtuse, not rounded and minutely, feebly prominent; sides evenly, rather strongly arcuate; disk evenly convex, rather closely, strongly but not very coarsely punctate laterally, the punctures becoming fine and very sparse toward the middle. *Elytra*

two-fifths longer than wide, scarcely wider than the prothorax, very broadly and obtusely ogival at apex; sides parallel and very feebly arcuate; humeri slightly obtuse, not at all rounded; disk not very coarsely but strongly and conspicuously punctate, the punctures sparse and without distinct serial arrangement except on the vertical flanks, where the series are distinct, the punctures approximate. Epipleuræ narrow. Abdomen finely, sparsely punctate. Legs short. Length 3.2 mm.; width 1.4 mm.

Colorado Mr. W. Jülich.

This species differs from *delicatulus* in its shorter, broader form, coarser punctures and radically different punctuation of the elytra. Several specimens.

#### EUSATTUS Lec.

The following form is not at all closely allied to any other thus far described, but may be placed just after *robustus* in our lists:—

**E. websteri** n. sp.—Form and size nearly corresponding with the larger specimens of *reticulatus*, black throughout, rather strongly convex, glabrous, the pronotum dull and coarsely sericeous, the elytra somewhat shining. Head coarsely, densely punctate, the punctures strongly coalescent and rugulose behind; antennæ subequal in length to the prothorax, the third joint equal in length to the next two together. Prothorax nearly two and one-half times as wide as the median length, the apex deeply emarginate, two-fifths as wide as the base, the latter transverse, broadly sinuate toward the basal angles, which are acute and slightly prominent posteriorly; sides strongly convergent anteriorly and very feebly arcuate from basal third, thence to the base nearly parallel and more arcuate; apical angles anteriorly produced far beyond the eyes, but with the apex rounded; disk strongly convex, very broadly explanate and reflexed at the sides, coarsely, deeply, extremely densely punctate throughout, the punctures longitudinally confluent, and, on the reflexed lateral parts, becoming coarsely rugulose and confusedly confluent. Scutellum distinct, triangular. Elytra twice as long as the prothorax, and, at base, equal to the latter in width, in the middle very slightly wider, scarcely as long as wide; apex very broadly parabolic; sides feebly arcuate; disk convex, almost perpendicular toward the sides and apex; side margins throughout strongly and unusually widely reflexed, each elytron with three strong acutely elevated costæ, which are more or less interrupted, and which do not attain the apical angles, the suture not appreciably costate; intervals coarsely, sparsely and confusedly punctate, evenly concave, each with a single median row of subelongate distant tubercles. Epipleuræ very broad, occupying the entire inflexed sides, strongly impressed near the sides especially toward base; prosternum granulato-punctate, strongly impressed laterally throughout the length, the hypomera strongly, broadly and abruptly oblique downwards. Legs moderate; anterior tibiæ strongly bent at apex and with a very large oblique terminal spur; hind tarsi nearly two-thirds as long as the tibiæ. Length 15.0 mm.; width 10.3 mm.



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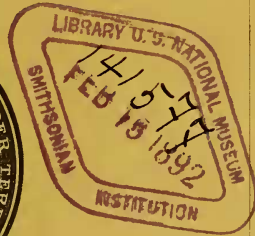
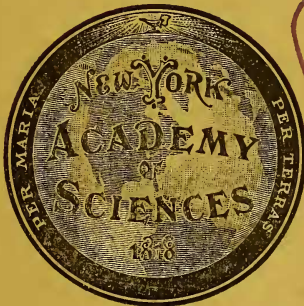
# ANNALS

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Colorado.

The under surface is clothed very sparsely with short yellowish hairs. One specimen.

I take pleasure in dedicating this species, perhaps the most interesting of the novelties contained in the Levette cabinet, to Mr. F. M. Webster, in partial recognition of many favors rendered by him in connection with the transfer of the cabinet mentioned.

### ELEODES Esch.

The following species, represented by a series of eleven specimens from the Levette cabinet, is not closely allied to any other, but may be placed for the present near *humeralis*:—

**E. rileyi** n. sp.—Rather robust and convex, somewhat strongly shining, intense black throughout. *Head* coarsely, rather closely punctate; antennæ subequal in length to the head and prothorax, the third joint three times as long as wide and rather longer than the next two combined, the outer joints but moderately robust. *Prothorax* from one-fourth to three-fifths wider than long, the apex broadly, feebly emarginate, distinctly narrower than the base, the latter transverse, generally very broadly, feebly sinuate toward the middle; apical angles obtuse but not at all rounded, basal slightly obtuse, not much rounded and rather prominent; sides strongly arcuate at apical third, thence strongly convergent and nearly straight to the apex, distinctly sinuate before the base; disk rather coarsely, deeply punctate, densely so toward the sides, sparsely and unevenly, with large impunctate patches toward the middle. *Elytra* two and one-half times longer than the prothorax, and, in the middle, from one-fifth to nearly one-half wider than the latter; sides evenly arcuate; humeri narrowly rounded, slightly prominent and usually distinctly exposed; apex narrowly rounded; disk almost vertical behind, rather coarsely, feebly and subasperately punctate, sometimes with very feebly impressed distant lines, the punctures rather sparse, not much denser laterally, confusedly disposed but often having a feeble lineal arrangement. Prosternum not at all produced. Anterior tibial spurs extremely unequal, the anterior robust, long, subparallel and truncate at apex, the posterior very small, acute, the larger spur still more pronounced, broader and more truncate in the female. Length 12.0–15.0 mm.; width 5.2–7.2 mm.

Arizona.

The anterior femora are completely unarmed in both sexes, and the relative proportion in the length of the anterior tibial spurs is nearly independent of sex, but both spurs are longer, and the anterior much wider, more broadly truncate and more parallel in the female than in the male.

From *humeralis* the present species differs in its smaller size,

much sparser punctuation, narrower, more convex form and much shorter third antennal joint.

I have dedicated it to Prof. C. V. Riley of Washington, as a slight token of my appreciation of his many acts of kindness and liberality.

**E. nitidus** n. sp.—Rather slender, convex and subcylindrical, black throughout and strongly shining, glabrous. *Head* rather sparsely punctate, moderately coarsely so toward apex; antennæ robust, nearly as long as the head and prothorax, the third joint four times as long as wide and fully as long as the next two together, last three joints distinctly dilated forming a club, the ninth and tenth strongly transverse. *Prothorax* quadrate, very nearly as long as wide, the apex transverse, broadly and feebly bisinuate, equal in width to the base, which is broadly, rather strongly arcuate; apical angles right, narrowly rounded, basal broadly obtuse and not prominent but not at all rounded; sides parallel, very feebly arcuate; disk just visibly wider at apical third than at base, evenly convex, extremely minutely and sparsely punctate. *Elytra* two and three-fourths times as long as the prothorax, and, in the middle, nearly one-half wider, about twice as long as wide; sides broadly arcuate; base broadly emarginate; humeri right, not noticeably exposed; apex acutely rounded; disk obliquely declivous behind, having feebly marked, distant, completely unimpressed series of extremely minute punctures; intervals minutely, sparsely and more or less confusedly punctate, the punctures not distinctly larger or denser laterally. Femora all slender and completely unarmed; spurs of the anterior tibiæ very unequal, the anterior slender, acutely pointed and moderate in size; posterior tarsi slightly compressed, nearly three-fourths as long as the tibiæ. Prosternum slightly prolonged but not at all reflexed, the apex vertical. Length 18.0 mm.; width 6.7 mm.

#### Arizona.

This species, which is represented before me by a single specimen, apparently a male, belongs near *longicollis*, but differs in its flatter, rather shorter prothorax, less rounded on the sides, in its shorter, broader elytra, broadly and rather strongly emarginate at base and having widely distant rows of punctures, and in its shorter, stouter and much more clavate antennæ.

**E. compositus** n. sp.—Moderately robust, convex, intense black throughout, the pronotum dull and strongly alutaceous; elytra shining, very feebly alutaceous, glabrous. *Head* densely dull, finely, rather sparsely punctate; antennæ rather long and stout, fully as long as the head and prothorax, third joint between three and four times as long as wide, outer joints slightly broader, the ninth and tenth somewhat transversely oval. *Prothorax* about as long as wide, the apex and base equal in width, the former broadly, very feebly emarginate, the latter correspondingly arcuate; apical angles right,

slightly blunt, not prominent, the basal broadly obtuse; sides parallel, broadly arcuate or subangulate just before the middle, very feebly sinuate just behind the apical angles, feebly convergent and nearly straight to the base; disk evenly convex, very minutely, sparsely punctate. *Elytra* about two and two-thirds times as long as the prothorax, and, in the middle, one-half wider than the latter, about twice as long as wide; sides broadly arcuate; humeri not at all exposed; apex acutely angulate; disk strongly declivous behind, deeply sulcate, the ridges strongly convex and shining, each with a single rather uneven series of small, moderately distant punctures, the intervals as wide as the ridges, deep, opaque, each with a single series of rather small, close-set, asperate punctures. *Legs* slender, the femora shining, rather finely but strongly punctate, the anterior alone with a strong acute tooth near the apex; tibiae strongly rugose except toward base, the spurs of the anterior small, acute and nearly equal. Prosternum with the apex slightly reflexed, acute and tuberculiform. Length 16.0 mm.; width 6.6 mm.

**Texas.**

A single specimen from the Levette cabinet. This species has but little affinity with any other thus far described, the prothorax being nearly similar to that of *gentilis* and the elytra deeply sulcate, as in the typical *hispidulabris*; for the present it may be placed just after the latter in our lists.

**EULABIS** Esch.

The species of this genus may be distinguished as follows:—

Pronotum bicarinate; body glabrous .....**bicarinata**  
 Pronotum not at all carinate.

Elytra finely but strongly costate; eyes very short and transverse, occasionally almost divided.

Body sparsely pubescent .....**pubescens**  
 Body glabrous.

Prothorax much narrower than the elytra, coarsely, deeply punctate, the punctures not at all longitudinally confluent.....**grossa**

Prothorax subequal in width to the elytra, generally more finely punctate and longitudinally rugulose.

Antennæ with the second joint much smaller than any other.

Antennæ long and extremely robust, the tenth joint twice as wide as long; punctures of the elytral series very coarse.

**laticornis**

Antennæ shorter, moderately stout, the tenth joint less than twice as wide as long; elytral punctures fine.....**crassicornis**

Antennæ with the second joint subequal to the fifth; smaller species.  
**rufipes**

Elytra not distinctly costate, having series of lineate punctures; eyes much longer and less deeply emarginate.....**obscura**

The last of these was placed in a separate genus by LeConte, and possibly *Epantius* should be regarded as valid, or at least a good subgenus.

**E. laticornis** n. sp.—Moderately robust, subparallel, somewhat depressed, glabrous, black to piceous-black; legs paler, rufo-piceous; antennæ black; integuments dull. *Head* coarsely, densely punctate, the punctures finer, less crowded and more asperate anteriorly; epistoma transversely truncate; eyes short and transverse but only one-half divided; antennæ unusually long, almost attaining the base of the prothorax, extremely stout, the outer joints strongly transverse and compressed. *Prothorax* one-fifth to one-fourth wider than long, the apex transversely truncate, rather distinctly wider than the base, the latter extremely feebly arcuate; apical angles very obtuse, distinctly rounded, basal widely obtuse but not rounded and generally minutely prominent; sides broadly, evenly arcuate, more convergent and straighter toward base; disk widest before the middle, evenly, very feebly convex, coarsely, deeply, extremely densely punctate, the punctures having much less tendency to longitudinal coalescence than in *crassicornis*. *Elytra* one-half longer than wide, oblong-oval, about twice as long as the prothorax, and, in the middle, about one-fourth wider than the latter, abruptly, obtusely rounded at apex; sides broadly arcuate; humeri narrowly rounded, somewhat tuberculiform and prominent and distinctly exposed; base broadly, feebly emarginate, the basal margin unevenly tumid; disk broadly flat above, the costæ strongly marked; intervals each with a single row of coarse deep circular punctures. *Abdomen* densely, coarsely and deeply punctate, each puncture bearing a distinct recumbent hair; median portions broadly impressed or flattened. *Legs* very stout and moderately long, the hind femora much longer than the intermediate; anterior tibiæ slightly arcuate, stout. Length 9.2–10.0 mm.; width 3.8–4.2 mm.

California (San Diego).

One of the two specimens before me formed part of the Levette cabinet, the other was kindly communicated by my friend Dr. F. E. Blaisdell, and was collected at Poway.

This species is quite distinct from any other thus far known; it is nearly as large as *grossa*, but has less inflated elytra. It may be readily distinguished from *crassicornis* by its more robust and especially much longer antennæ, much larger size, more depressed form, coarser punctuation and scarcely at all longitudinally rugulose sculpture of the pronotum.

#### CIBDELIS Mann.

**C. lævigata** n. sp.—Moderately robust and convex, intense black throughout, glabrous. *Head* rather coarsely, densely punctate behind, much

more finely so on the epistoma; sides broadly reflexed before the eyes; antennæ rather short and slender, about as long as the prothorax, rufescent at base, the third joint distinctly shorter than the next two together. *Prothorax* nearly twice as wide as the head, two-fifths wider than long, the apex and base subequal, the former truncate, feebly sinuate laterally, the latter broadly, feebly arcuate; sides broadly, evenly arcuate, becoming oblique and straight near the basal angles, which are very obtuse but not rounded; apical angles slightly obtuse and narrowly rounded; disk feebly alutaceous in lustre, evenly convex, rather finely, sparsely punctate throughout, the punctures becoming almost obliterated near the thick marginal bead. Scutellum broad, triangular. *Elytra* two-thirds longer than wide, two and one-half times as long as the prothorax, and in the middle, one-fourth wider than the latter; sides nearly straight and parallel from the strongly oblique and broadly arcuate humeri to posterior third, the apex rather acutely triangular; disk rather strongly, gradually declivous behind, with scarcely at all impressed, distant striæ of small, unevenly spaced and feeble punctures, the intervals shining, coarsely wrinkled, extremely minutely and sparsely punctate, without small tubercles except near the sides toward apex. *Legs* short and slender. Length 13.0 mm.; width 5.6 mm.

California (Sta. Barbara). Mr. G. W. Dunn.

This species differs from *blaschkei* in its shorter, broader form, smooth surface, finely, rather sparsely punctate prothorax with the sides behind oblique and straight and not at all sinuate before the broadly obtuse basal angles, and in the much smoother and less tuberculate elytra. In general appearance it is altogether distinct from either *blaschkei* or *bachei*. A single specimen.

#### ALÆPHUS Horn.

**A. macilentus** n. sp.—Elongate-oval, moderately convex, pale luteo-flavate throughout, strongly shining, the head and pronotum very slightly alutaceous; body nearly glabrous, each puncture of the elytra bearing a short pale recumbent seta. *Head* rather coarsely punctate, the punctures shallow, strongly and polygonally crowded forming a reticulation of raised lines; eyes large, angulate antero-internally; front deeply impressed at each side in front of the eyes; antennæ slender, cylindrical, filiform, a little longer than the head and prothorax, the outer joints not thicker but gradually much shorter, third very long and slender, though scarcely as long as the next two together. *Prothorax* but very slightly wider than long, the apex transversely truncate, nearly three-fourths as wide as the base, the latter transverse, very broadly, feebly bisinuate; basal angles right, not rounded, the apical very obtuse and rather blunt; sides broadly, feebly, almost evenly arcuate; disk scarcely as wide at base as just behind the middle, feebly convex, broadly, feebly impressed along the middle, feebly, rather widely reflexo-explanate laterally, especially toward base, very feebly, subcoalescently punctate and

minutely subrugulose. Scutellum distinct, broadly rounded or subangulate behind and constricted at the sides near the base. *Elytra* about three times as long as the prothorax, and, in the middle, about one-third wider than the latter, a little more than twice as long as wide; sides broadly arcuate; apex gradually, acutely ogival; humeri broadly rounded, a little broader than the base of the prothorax; disk evenly convex, finely but rather strongly, evenly but irregularly, moderately densely punctate. *Abdomen* finely, sparsely punctate. *Legs* moderate in length, slender. Length 5.0-6.4 mm.; width 1.7-2.2 mm.

Arizona; New Mexico.

Distinguishable from *pallidus* by its much smaller size and more slender form, more quadrate prothorax, still paler coloration and more shining surface lustre. Apparently not rare.

#### IDIOBATES n. gen.

This name is proposed for *Tenebrio castaneus* Knoch, an anomalous form hitherto associated with the normal members of *Tenebrio*, but manifestly distinct by reason of its completely divided eyes and abdominal structure, only the penultimate segment of the latter being provided with a visible coriaceous hind margin. I would suggest that it be placed in the *Blapstini* near *Mecysmus*.

The generic value of *castaneus* was long ago recognized by Bates, and later by LeConte, but I am not aware that it has ever been given a distinctive name. It certainly constitutes as good a connective bond, between the *Blapstini* by way of *Mecysmus* and the other *Tenebrionini* through *Tenebrio*, as could well be found, the undilated anterior tarsi being a matter of no material importance in this connection.

In the table of the tribe *Tenebrionini* given on page 393, Vol. V of these *Annals*, the genus *Calcar*, together with one or two other exotic genera, must constitute a group distinct from the *Tenebriones* by reason of the very exceptional abdominal structure, the coriaceous hind margins of both the third and fourth segments being completely invisible. This well-known fact was inadvertently overlooked in compiling the table alluded to.

#### BLAPSTINUS Latr.

I have recently, by way of experiment, dissected a series of eight specimens of a form very near *rufipes*, probably a variety or race of that species, and have found a singular and altogether unexpected



constancy in the form and size of the rudimentary hind wing, the extreme variation not amounting to more than one-fifth of the average length, the latter being a little more than one-half the total length of the elytra. This is not put forward as proof of any general rule, but simply as an isolated fact in a field very little explored and still less understood.

It seems extremely difficult to account for this constancy by the theory of natural selection, and, as it is impossible to doubt the ever-acting reality of the principle in question, we can only infer that rudimentary organs are not necessarily inordinately variable, and, when comparatively constant, that the standard is maintained by the action of other laws less easily appreciated.

Darwin, in his "Natural Selection," dwells but briefly upon this question, but gives as one instance of variability in rudimentary organs, the wings of a certain beetle which may be either fully developed or more or less rudimentary. Other authors have also cited examples of a corresponding nature. I think, however, that there is more or less doubt to be attached to this entire category of observations, due to a lack of knowledge of the physical conditions under which the various specimens may have existed. It would for example be manifestly repugnant to the fundamental idea of natural selection to imagine individuals of the same species, with fully developed and rudimentary wings living together on the same bush—except in cases of sexual dimorphism, which constitute a wholly different branch of the subject,—for this very principle would tend to eliminate those individuals which were least able to maintain themselves, and we cannot assume that perfectly and partially developed wings constitute conditions equally fitting the species to maintain itself against a great variety of external influences.

The only conceivable circumstances under which individuals of a wingless species may, under the same conditions, also be found with more or less developed wings, are due to occasional reversion to the conditions characterizing the primitive stock from which the species may have been derived. If the species has been differentiated for a comparatively great length of time, which may perhaps be judged of approximately by its degree of departure from related winged species, this reversion will surely be quite exceptional.

Wingless species occurring on oceanic islands are frequently said to be identical with continental fully winged forms, but it seems as

though the mere fact that one form is winged and the other wingless ought to be sufficient ground for specific isolation, especially as it is highly probable that the more or less extended time necessary to bring the winged continental form to the wingless insular condition, will generally be sufficient to develop other specific differences. At all events the wingless island form must always be considered an incipient species or variety, for this kind of isolation has been one of the most potent factors in the differentiation of species as we now understand them.

#### CONIBIOSOMA Cas.

The following species bears but little external resemblance to *elongata*, but as the prothorax is strongly fimbriate, the body apparently apterous, and the anterior tibiæ slender, it must either be placed here or in a new genus:—

**C. laciniata** n. sp.—Moderately slender, oblong-suboval, densely punctate anteriorly but rather shining; body black throughout, the legs rufous, the antennæ dark piceo-rufous; pubescence rather dense, moderately long, nearly as in *Blapstinus*, very coarse, rigid, semi-erect and black, not very conspicuous. *Head* short and broad, broadly, feebly sinuate at apex, rather coarsely, very densely and deeply punctate; eyes moderately large, the upper lobe elliptical; antennæ long, about as long as the head and prothorax, stout, clothed throughout with long stiff black setæ, the outer joints gradually, feebly incrassate and distinctly transverse, the eleventh narrower than the tenth, the third long, equalling the next two combined. *Prothorax* about one-third wider than long, the apex as wide as the base, transversely truncate, the base broadly arcuate, not appreciably sinuate toward the basal angles which are obtuse but not rounded; apical slightly obtuse, not rounded; sides broadly, almost evenly arcuate; disk widest near the middle, evenly convex, rather coarsely, very deeply and extremely densely punctate throughout, the side margins with a dense fringe of long erect stiff setæ. *Scutellum* triangular, entering the disk of the elytra, densely punctate. *Elytra* about two and one-half times as long as the prothorax, and, in the middle, nearly one-fourth wider than the latter, fully three-fourths longer than wide, obtusely parabolic at apex; sides parallel, very feebly arcuate; humeri slightly exposed at base; disk with rather coarse, feebly impressed series of somewhat coarse, deep, moderately close-set punctures, the intervals feebly convex, shining, extremely minutely, rather sparsely and confusedly punctate. *Abdomen* rather finely, but deeply and densely punctate, broadly, deeply impressed in the middle in the male. *Legs* rather slender, the hind tarsi with the basal joint subequal to the next two and very much shorter than the last. Length 4.6–5.0 mm.; width 1.8–2.1 mm.

Arizona (Tuçson). Mr. H. F. Wickham.

This exceedingly interesting and aberrant species is easily recognizable by its rather long antennæ, conspicuous pronotal fringe and coarse black vestiture; it will probably have to be ultimately separated from *elongata* as a distinct genus.

**PALEMBUS** n. gen.

I have applied this name to a small species, having very nearly the antennal structure of *Oplocephala* Lap. (= *Evoplus* Lec.), and apparently allied to that genus, but differing in its narrower, more depressed form, non-tuberculate head, large coarsely faceted eyes, longer hind tarsi and entire epipleuræ; its general characters are as follows:—

Body parallel, rather strongly convex. Head rather short and broad, the eyes large, more prominent than the sides before them; antennæ short, the last seven joints short and transverse, forming a long loose parallel club; maxillary palpi rather slender, the last joint elongate-oval, about as long as the preceding two together, the apex obliquely and narrowly truncate; mentum obtrapezoidal; ligula large, corneous, the connate paraglossæ large, broadly rounded. Prothorax transverse, the prosternum moderately wide between the coxæ. Elytra striate; epipleuræ narrow, entire, flat. Legs rather slender, the anterior tibiæ not dilated; posterior tarsi long, but slightly shorter than the tibiæ, the basal joint equal to the last and as long as the second and third together, the third one-half longer than wide.

In the type specimen the structure of the middle coxal cavities cannot be clearly discerned.

**P. ocularis** n. sp.—Oblong-elongate, convex, pale rufo-testaceous throughout, shining, glabrous. Head evenly, feebly convex, finely, moderately densely punctate behind, the epistoma rather large, abruptly deplanate, feebly convex and very minutely punctate, the sides strongly convergent, the apex broadly truncate, the surface feebly impressed just before each eye; eyes large, separated above by scarcely their own width; antennæ one-third longer than the head, stout, compressed, the third joint a little longer than the fourth and one-half longer than the second. Prothorax four-fifths wider than long, the apex and base equal, the former broadly, feebly, evenly arcuate, almost truncate, the latter arcuate in the middle, oblique thence to the basal angles which are obtuse and blunt, apical rounded; sides feebly arcuate behind, nearly straight anteriorly; disk slightly widest near basal third, evenly, transversely convex, distantly and feebly biimpressed at base, very finely, not densely punctate. Scutellum slightly wider than long, ogival. Elytra between three and four times as long as the prothorax, equal in width to the latter, fully twice as long as wide, parallel, obtusely rounded behind,

finely striate, the striæ feebly but distinctly impressed, finely punctate, the intervals minutely, sparsely and confusedly punctured. *Abdomen* finely, not very densely punctate. Length 3.8 mm.; width 1.3 mm.

Florida.

I owe the above-described specimen to the kindness of Mr. W. Jülich, in whose cabinet there is a considerable series, displaying scarcely any variation.

#### RUES n. gen.

This name is proposed for a distinct genus belonging near *Hegemonia* Cast., and represented by the species recently described by me under the name *Helops ovipennis* (Ann. N. Y. Acad., V, p. 487).

It resembles *Hegemonia* in the unusually wide mesosternum, nearly flat between the coxæ, and in the exceedingly short metasternum, but differs in the wider elytra, extremely broad epipleuræ and very short slender legs.

#### HELOPS Fab.

Both of the following species are related to *bacheri*, and should immediately follow that species in our lists:—

**H. blaisdelli** n. sp.—Oblong-oval, rather strongly convex, piceous-black, the elytra castaneous; antennæ and legs throughout rufo-testaceous; integuments glabrous and strongly shining. *Head* feebly convex, rather coarsely, deeply, moderately densely punctate, the punctures longitudinally coalescent, forming long furrows and rugæ; eyes prominent and convex; antennæ slender, filiform, nearly one-half as long as the body, joints four to ten elongate, evenly obconical, subequal, eleventh a little longer, third much longer. *Prothorax* transverse, one-half wider than long and four-fifths wider than the head; base and apex subequal and both transversely truncate; sides strongly and almost evenly arcuate; apical angles broadly obtuse and narrowly rounded, basal very obtuse but scarcely rounded; marginal bead very fine and feebly developed throughout the length; disk very much wider at basal third than at base, evenly convex, somewhat coarsely, deeply, rather densely and unevenly punctate throughout, the punctures but slightly sparser toward the middle, toward the sides more or less longitudinally coalescent in twos or threes. Scutellum broadly ogival. *Elytra* two and one-half times as long as the prothorax and not in the least wider than the latter in any part, four-fifths longer than wide; sides parallel and nearly straight; apex obtusely ogival; humeri rather broadly exposed at base, slightly obtuse, narrowly rounded; disk rather finely striate, the striæ entire, not impressed but abruptly grooved, the punctures elongate, moderate but uneven in size and mutual separation; intervals flat, feebly and confusedly undulated, finely, not

very densely punctate, laterally toward the apex with small, distant, feebly elevated tubercles in single series on each. *Abdomen* finely, somewhat densely punctate; metasternum but slightly shorter than the first ventral segment; mesosternum long and depressed in front, rather narrowly separating the coxæ, feebly declivous and slightly impressed before the coxæ, the process becoming horizontal behind; prosternal process not at all prominent posteriorly. *Legs* moderately long, the tibiæ rather strongly enlarged from base to apex, the anterior tarsi rather broadly dilated in the male, posterior short with the basal joint equal to the next two and much shorter than the last. Length 8.0-9.0 mm.; width 3.2-3.3 mm.

California (San Diego). Dr. F. E. Blaisdell.

The two specimens before me are both males, and have the intro-mittent organ rather broad throughout, abruptly and sharply acuminate at apex, and with the upper surface deeply and longitudinally excavated, the excavation extending almost to the apex; in *bachei* it is finely but less abruptly acuminate, and the upper surface is finely, longitudinally subcarinate near the apex, the excavation being very feeble and much less apical. The form of *blaisdelli* is considerably shorter and the prothorax is very much more transverse.

**II. *discipula*** n. sp.—Evenly elongate-oval, strongly convex, glabrous, moderately shining, the elytra alutaceous; upper surface dark castaneous, beneath paler, rufescent; legs and antennæ rufous. *Head* coarsely, not densely punctate, the punctures scarcely at all longitudinally confluent, slightly finer anteriorly; eyes prominent; antennæ short, but slightly longer than the head and prothorax, joints four to eight increasing in length, rather slender, obconical, nine to eleven thence gradually shorter and more dilated, the last obliquely oval and not longer than the tenth, third one-half longer than the fourth. *Prothorax* nearly one-half wider than long, the apex rather distinctly narrower than the base, both subtruncate or extremely feebly arcuate; sides strongly evenly arcuate; apical angles broadly obtuse and slightly rounded, basal extremely obtuse and widely rounded; marginal bead very fine but distinct throughout the length; disk not very coarsely, rather densely punctate, the punctures sparser in the middle, with scarcely any tendency to coalesce longitudinally toward the sides. *Scutellum* broadly triangular, short, coarsely, rather densely punctate. *Elytra* oblong-oval, about three times as long as the prothorax, and, in the middle nearly one-third wider than the latter, twice as long as wide, gradually ogival behind; sides parallel, broadly arcuate; humeri obtuse, exposed at base; disk with very fine, entire unimpressed series of fine unevenly spaced and generally more or less linear punctures, the intervals flat, minutely, sparsely, confusedly punctate, each with a single widely spaced series of very small tubercles, which are rather indistinct toward the suture. *Abdomen* finely, sparsely punctate; sterna nearly as in *blaisdelli*. *Legs* rather long, very slender. Length 7.0 mm.; width 2.9 mm.

California (probably near San Diego). Mr. W. Jülich.

The type is apparently a female, and the anterior tarsi are not dilated. It is easily distinguishable from both *bachei* and *blaisdelli* by the short antennæ and broader elytra, and from the former, in addition, by its short transverse prothorax with fine marginal bead.

**H. cylindriformis** n. sp.—Narrow, strongly convex, subcylindrical, black throughout, shining and feebly alutaceous. *Head* scarcely as long as wide, broadly, evenly, feebly emarginate at apex, the surface rather finely and densely, very strongly punctate; eyes rather more prominent than the feebly reflexed sides before them; antennæ slender about one-half as long as the body (male) or scarcely as long as the head and prothorax (female), third joint a little longer than the next two together, outer joints gradually and only slightly broader, the tenth about one-half longer than wide and a little shorter than the eleventh, the latter slightly longer in the male where it is twice as long as wide, obliquely acute at apex. *Prothorax* elongate, fully as long as wide, the apex broadly arcuate, a little narrower than the base, the latter subtruncate; sides broadly arcuate at or just before the middle, feebly convergent and more feebly arcuate to the apex, broadly, distinctly sinuate before the basal angles which are right, not at all rounded and somewhat prominent; disk evenly convex, finely, densely punctate, the punctures strong and always distinctly separated, but slightly less dense toward the middle where there is usually a narrow uneven impunctate line. *Elytra* twice as long as wide, not quite three times as long as the prothorax, and, in the middle, scarcely two-fifths wider than the latter; sides parallel, broadly, feebly, evenly arcuate; apex obtusely ogival; humeri completely obsolete, the base exactly equal to the thoracic base; disk with unimpressed series of small unevenly spaced but generally approximate and slightly elongate punctures, the intervals flat, very finely, irregularly, sparsely punctate. *Abdomen* very finely, rather sparsely punctate. *Legs* slender, the anterior tarsi very slightly dilated in the male. Length 9.0–14.0 mm.; width 3.2–5.0 mm.

New Mexico (Fort Wingate). Dr. Shufeldt.

This species, which is represented by a series of eight specimens, is allied to *difficilis*, but differs in its more slender subcylindrical form, much more elongate prothorax with less blunt apical angles, narrower and more finely and sparsely punctate elytra and rather shorter antennæ.

*H. viridimicans* Horn appears to be homologous with the Cuban *rufipes*, and to be more appropriately assignable to Nautes than to Helops, although it must be confessed that the difference between these genera has not been very satisfactorily expressed.

*H. montana* Lec. is quite distinct from *convexula* in its broader, more oblong form, and in its longer and much stouter antennæ and notably larger size.

**STRONGYLUM** Kirby.

Two specimens of *S. atrum* Champ., from the Levette cabinet and labeled "Arizona" are before me. This species is quite aberrant in appearance and may be known at once by its large size, smooth but dull surface, rather coarse, very dense pronotal punctuation and fine unimpressed and feebly punctate elytral striae.

## CISTELIDÆ.

There is probably no family, even of the Heteromera, where the differentiation of genera depends so little upon definite and constant modifications of special organs, and so greatly upon general habitus, as in the Cistelidæ. There are, for example, but few special characters relating to the palpi, tarsal lobes, eyes or antennæ, which remain invariable throughout the limits of even those genera which, in the majority of species, are particularly distinguished by important developments or modifications of any one of the organs mentioned. We are therefore beset with numerous difficulties in our definition and limitation of the genera.

In regard to the family considered in its entirety, however, the case is quite different, since there is no group of the Heteromera which is so homogeneous within itself, or so clearly limited in extent. For, while closely related to the Tenebrionidæ through *Strongylium* and other allied genera, it is always and invariably distinguishable by the pectination of the tarsal claws; besides this there is, in the vast majority of genera, a marked and unmistakable peculiarity of facies which can seldom be mistaken.

The porous system of the antennæ is developed to an extent unknown in the Tenebrionidæ, except in certain of the strongyliide genera, the entire surface of all but three or four of the basal joints being studded with large circular sparsely placed pits, which are filled with a white sensitive material of a spongy-pubescent nature. These pores are frequently so large as to be quite conspicuous under the lowest powers of amplification.

The Cistelidæ resemble the lower Tenebrionidæ in the prolongation backward at the sides of the third and fourth ventral segments, which is however more marked and general than in the latter family, and also in the well-developed coriaceous posterior margin of these

segments; also in the thinner integuments of the body, with soft and easily ruptured connective tissues. Perhaps some of the characters which the family in general possesses in common with the Strongyliini, indicate really a higher development than that of the Asidinae and Tentyriinae; the superior powers of perception indicated by the complex porous system of the antennæ, large eyes and more developed palpi, would, at any rate, seemingly point to this conclusion.

As more important distinctive characters of the family, it may be said that the antennæ and tarsi are usually long and slender, the basal joint of the posterior tarsi being more or less elongate. The anterior coxæ are narrowly separated, the cavities always closed behind but never confluent, at least externally, although sometimes separated by a very thin lamina; beneath this lamina they may possibly sometimes be confluent, but usually appear to be separated by a more or less thickened membrane. The eyes are generally large, sometimes extremely so. The mandibles are small or moderate, arcuate and finely notched at apex, occasionally being nearly entire, but this character cannot be advantageously employed in classification, except in distinguishing closely allied genera. The genera with lobed tarsi appear, as a rule, to be more constant in generic as well as specific characters, than those with simple tarsi.

The sexual characters of the male are generally strongly manifested in the eyes, antennæ or genital apparatus. The intromittent organ is more or less acutely pointed at apex, the under side being channeled, except very near the apex. Lying in this groove is a curious straight spike hinged at one end to a point of attachment within the channel, which can be placed in a position perpendicular to the organ, and which probably locks the organ securely to the inner surface of the vagina. The strong hold thus obtained, is often abundantly evident by the great extrusion of the female viscera in specimens captured *in copula*. It is quite singular that this spike is not exhibited in any of the many elaborate and apparently careful drawings of Mr. Saunders published in the *Biologia*; it is often plainly visible, projecting from the under surface of the penis in *Hymenorus*.

The abdomen consists of five segments in both sexes. The œdeagus proper is protected by a plate which is often extruded beyond but usually concealed beneath the fifth segment, the plate



being sometimes quite prominent behind in one or both sexes according to the genus;<sup>1</sup> it is generally deeply bilobed in the male and more or less truncate in the female, but may occasionally be completely non-lobed in the male. Under the latter circumstances it has much the appearance of an additional segment, and is often designated the "sixth segment." It is, however, not a segment in any such meaning as is attached to the other abdominal segments, but is a part of the genital apparatus, and should more properly be termed the "genital armature." It probably serves no other purpose than a guide or protection to the œdeagus proper, the lobes of the male not constituting in any sense a clasping or locking organ.

In view of the intricate affinities of the various genera and the complex, extremely prominent and greatly diversified sexual modifications of the antennæ, palpi, eyes, tarsi, fifth ventral segment and genital armature in the various species composing them, a general and exhaustive study of the Cistelidæ would undoubtedly prove one of the most instructive but, at the same time, one of the most laborious works which could well be undertaken. In the absence of a sufficiently general knowledge of the family, I feel therefore, that the characters employed in the following table will, in many cases at least, be ultimately found to possess far less value than would, with the comparatively limited material at my service, appear to belong to them. However, as represented in our fauna the genera may for the present be distinguished by the following characters:<sup>2</sup>—

<sup>1</sup> The group "Cténioptides" of Lacordaire will probably not prove to be entirely natural, and as there are extremely few genera—*Andrimus* (*Cteniopus* Lec.), and possibly *Androchirus*—within our faunal limits, which can be placed within it, I have disregarded it in the generic scheme which is here presented. A division into distinct groups, based upon the protrusion of the genital armature in both sexes, would give rise to difficulties analogous to those encountered in attempting to divide *Mycetophila* into distinct genera on certain prosternal characters, a statement of which will be given more fully under that genus.

<sup>2</sup> I have been greatly aided in this investigation by material placed in my care by Prof. C. V. Riley and Mr. W. Jülich, and also have to acknowledge my indebtedness to Mr. Champion for typical representatives of many of the Central American forms, which have been extremely useful in many cases besides that of proving the equality of *Prostenus californicus* and *Xystropus fulgidus*.

Intercostal process of the abdomen rather wide, with the apex more or less evenly and broadly rounded.

Tarsi not lobed beneath.

Antennæ stout, incrassate and compressed, with the subapical joints quadrate or transverse ..... **Xystropus**

Antennæ more filiform, with the subapical joints longer than wide.

**Lystronichus**<sup>1</sup>

Tarsi lobed beneath; body upiform, the antennæ slender... **Stenochidus**

Intercostal process of the abdomen narrow, acute and angulate.

Tarsi lobed beneath.

Head in repose resting against the prosternum and coxæ, the former strongly declivous anteriorly..... **Lobopoda**

Head in repose free, the prosternum before the coxæ longer and less declivous.

Prothorax more or less rounded at apex, the sides never convergent toward base.

Basal angles of the prothorax right or slightly obtuse, the body generally more or less oblong and parallel..... **Hymenorus**

Basal angles of the prothorax more or less acute and posteriorly prominent; body broader and oval..... **Menœceus**

Prothorax cordate, truncate at apex, the sides convergent and sinuate toward base, the basal angles rather prominent..... **Telesicles**

Tarsi not lobed beneath.

Third antennal joint generally subequal to the fourth at least in the female, in *Isomira* sometimes slightly shorter in that sex and more frequently so in the male; elytral striæ often obliterated.

Antennæ shorter, generally stout, the joints strongly obconical; form of body oblong, subparallel; punctuation and pubescence generally coarse and sparse..... **Mycetophila**

Antennæ longer, more slender, the joints very feebly obconical or subparallel; form oval, the punctuation and pubescence usually minute and very dense..... **Isomira**

Third antennal joint always distinctly shorter than the fourth, but longer in the female than in the male.

Anterior tarsi more or less dilated in the male.

Legs short, the tarsi generally distinctly shorter than the tibiæ; body but slightly convex longitudinally.

Mandibles notched at apex, the lobes equal and acute; elytra but feebly dehiscent and only very near the apex, the striæ obliterated laterally; genital armature deeply bilobed in the male.

**Tedinus**

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<sup>1</sup> I feel obliged to employ this particular combination of letters for the generic symbol, since this is given as the original spelling in the *Biologia*. I have, however, not seen the work of Latreille in which it is so printed.

Mandibles obliquely truncate at apex, the truncation feebly, unequally, obtusely bilobed; elytra strongly dehiscent in apical third to half, the punctured series distinct throughout the width; genital armature sinuato-truncate and completely non-lobed in the male ..... **Andrimus**

Legs long and slender, the tarsi as long as the tibiæ; body more longitudinally convex; mandibles deeply notched at apex, the lobes acute and subequal; elytra dehiscent in more than apical third, deeply striato-sulcate throughout the width; genital armature deeply bilobed in the male, the lobes very prominent.

**Capnochroa**

Anterior tarsi not dilated in the male, but usually strongly compressed and distorted; body generally strongly, longitudinally convex.

Mandibles distinctly notched at apex, the apices acute and subequal; antennæ more or less compressed and serrate ..... **Cistela**

Mandibles very oblique and feebly notched at apex, the upper lobe much longer and broader than the lower, acute; antennæ long and filiform ..... **Androchirus**

**XYSTROPUS** Sol.

*Prostenus* Horn nec Latr.

The head in *Xystropus* is almost of the same form as in *Helops* and some other allied genera of *Tenebrionidæ*; in *Stenochidus* it is of a more strictly *cistelide* type, but still the general form of body recalls the *Tenebrionidæ* much more forcibly than any of the typically *cistelide* genera which follow. In fact there seems to be some decided coördination between the form of the abdominal process and relationship with the *Tenebrionidæ*. This is my reason therefore for placing *Xystropus* and its allies first instead of last in the series.

In *Xystropus* as represented by *californicus*, the eyes are small, short and strongly transverse, the antennæ moderate in length, stout, incrassate and compressed, the maxillary palpi moderate, with the apex of the fourth joint but moderately oblique and the angle at the base much less than right, resembling somewhat that of *Helops californicus*. The prosternal process is horizontal posteriorly, then abruptly vertical to the level of the prosternal sidepieces, where it becomes strongly dilated, widely separating the latter at the posterior margin; the hind coxæ are distinctly separated by a rounded abdominal projection. The legs are short, the tarsi without lobes, clothed beneath with long coarse hair, and with the basal joint of the posterior unusually short. The ungues are

moderate in length, the outer contour almost evenly arcuate, the apex finely and acutely produced beyond the pectinate portion, the latter extending nearly to the base, the denticles fine, long and spini-form, gradually becoming very short toward base, eight or nine in number.

The single tropical species which extends within our faunal limits may be described as follows:<sup>1</sup>—

**X. californicus** Horn.—Trans. Am. Ent. Soc., 1867, p. 138 (*Prostenus*); *fulgidus* Mäkl.: Act. Soc. Fenn., X, p. 680.—Oblong-oval, evenly, moderately convex, polished throughout, the upper surface metallic red, the under black with steel-blue reflection; legs and antennæ black throughout; integuments devoid of fine pubescence, the upper surface bristling with long erect setæ from the coarse punctures. *Head* coarsely, very sparsely punctured, the eyes small; antennæ one-half as long as the body, very stout, compressed, feebly attenuate through the last three joints, the ninth joint as wide as long, third distinctly longer than the fourth. *Prothorax* transversely oval, but little more than one-third wider than long, the sides feebly angulate at basal third; disk without trace of impression or basal foveæ, extremely coarsely, sparsely and unevenly punctate, the large circular punctures intermingled with smaller ones. *Elytra* between three and four times as long as the prothorax, and, in the middle, about two-fifths wider, acutely parabolic at apex, the sides feebly arcuate, the humeri rather narrowly rounded and broadly exposed, the disk with unimpressed series of rather coarse close-set punctures; the intervals each with a single series of widely distant punctures, which are very much larger than those of the striæ. *Abdomen* finely, sparsely punctured. *Legs* short, slender, the tarsi somewhat compressed, short, the basal joint of the posterior but slightly longer than the next two combined. Length 9.3 mm.; width 3.5 mm.

California; Mexico; Panama; Colombia.

The representative from Panama, sent me by Mr. Champion, is precisely similar in every detail to the single specimen of *Prostenus californicus* in the LeConte cabinet at the Cambridge Museum. This indicates a distribution which certainly could not have been anticipated from analogy, at least in the present family.

#### LYSTRONICHUS Latr.

A comparatively composite genus in its present scope, essentially tropical in distribution, but extending to the extreme southern limits of the United States.

<sup>1</sup> In stating the degree of separation of the eyes in terms of their own width in the descriptions which follow, the point of sight is assumed to be in a perpendicular to the middle point of the interocular surface.

But one species has been described from our fauna, although two are said to be known from Texas.

**L. piliferus** Champ.—Biol. Cent.-Amer., Coleopt., IV, Pt. i, Nov. 1888, p. 462.

I have not seen any representative of this species. It is probable, however, from the remarks made by Mr. Champion, that it will ultimately have to be separated from the more typical forms of the genus.

It is "oblong-ovate, feebly convex, obscure reddish-brown, opaque, above usually of a pruinose bluish-violet, obscure purplish, or greenish-bronzy tint, the surface somewhat thickly clothed with long erect hairs, and also sparsely pubescent." The antennæ are "very long, slender and filiform," and the elytra have "rows of very minute punctures placed upon obsolete striæ." Length 6.0–8.3 mm.; width 2.0–3.5 mm.

#### **STENOCHIDUS** Lec.

In this genus the posterior coxæ are moderately separated by a short abdominal projection, which is evenly rounded at apex and quite similar to that of *Xystropus*, the anterior being separated by a rather wide, longitudinally convex prosternal process, which is strongly declivous and gradually attenuate behind. The legs are long and slender, the penultimate joint of all the tarsi strongly lobed beneath, the antepenultimate joint of the anterior and intermediate also lobed but less strongly, that of the posterior simple; these modifications are independent of sex.

The mandibles are distinctly notched at apex, the two lobes subequal. The fourth joint of the maxillary palpi is elongate, more or less recti-triangular, and differs sexually in form as described below under *S. gracilis*; the last joint of the labial is short and robust, wider than long, with the inner side slightly shorter than the outer. The ungues are moderate in size, the external outline more arcuate near the apex, the latter being finely and acutely produced beyond the pectination, which is long and rather fine, the denticles six or seven in number.

The general form of the body is elongate and convex, the prothorax subcylindrical, the integuments being more or less strongly granulato-reticulate and completely glabrous. The wings are well developed.

*Stenochidus* seems more closely related to *Narses* Champ. than to any of the other Central American genera, but the general aspect of the species must be quite different. Our species are only two in number and may be thus distinguished:—

Very dull, the legs black, with the basal three-fourths of the femora red.

**gracilis**

More shining, the elytral punctuation more distinct; legs black throughout.

**cyanescens**

**S. gracilis** Lec.—Ann. Lye. N. Y., V, 1851, p. 150.—Oblong, subparallel, strongly convex, black, the elytra sometimes with a bluish tinge, the basal three-fourths of the femora red; upper surface throughout very dull and strongly reticulato-granulose. *Head* and pronotum somewhat coarsely, very densely punctate; eyes small; antennæ long and slender, gradually incrassate. *Prothorax* quadrate (male) or very slightly transverse (female), the apex transversely truncate, almost as wide as the base, the latter very feebly bisinuate; basal angles slightly obtuse and quite distinctly blunt; sides nearly parallel and feebly arcuate, slightly more convergent near the apex; disk feebly, cylindrically convex, not impressed; foveæ obsolete. *Elytra* three and one-half times as long as the prothorax and nearly one-half wider, rather abruptly, obtusely ogival in apical third; sides nearly straight, parallel; humeri narrowly rounded and broadly exposed at base; disk with fine, minutely punctate striæ; intervals not distinctly punctate. *Abdomen* more shining, finely, sparsely punctate. *Legs* very long and slender, the hind tarsi much shorter than the tibiæ, with the basal joint distinctly longer than the remainder.

*Male*.—Eyes separated by two-thirds more than their own width; antennæ two-thirds as long as the body, slender, feebly incrassate, the ninth joint fully twice as long as wide; maxillary palpi with the fourth joint rather more than twice as long as wide, the angle at the support distinctly more than right, the apex a little longer than the outer side; abdominal punctures strong, becoming closer toward apex, the fifth segment entire at apex, with the surface broadly feebly impressed along the middle.

*Female*.—Eyes separated by fully twice their width; antennæ one-half as long as the body, gradually, rather strongly incrassate, the ninth joint obconical, one-half longer than wide; fourth palpal joint recti-triangular, twice as long as wide, the apex not at all longer than the outer side; abdomen very minutely, feebly, sparsely and evenly punctate throughout.

Length 7.0–8.0 mm.; width 2.3–2.9 mm.

California (Santa Cruz and San Diego Cos.).

The elytral striæ are more strongly impressed in the female, very feebly so in the male, and the third and fourth antennal joints are equal in both sexes. The male is generally distinctly more slender than the female.

**S. cyanescens** Lec.—Proc. Ac. Phila., 1859, p. 78.—Elongate, the body, legs and antennæ throughout black, rather strongly shining. *Head* rather coarsely, densely punctate. *Prothorax* but slightly wider than long, nearly as in *gracilis* but more finely, not so densely punctate, the punctures all narrowly separated. *Elytra* four times as long as the prothorax in the male, distinctly shorter in the female, one-third wider than the latter, the humeri narrowly rounded and broadly exposed; disk with feebly impressed series of rather coarse impressed punctures, the intervals nearly flat in both sexes and minutely, sparsely punctate, the punctures arranged in single series and more distinct in the male. *Legs* and abdomen in both sexes nearly as in *gracilis*.

*Male*.—Eyes rather large, separated by one-fourth more than their own width; antennæ two-thirds as long as the body, just visibly stouter toward apex, the ninth joint much more than twice as long as wide and nearly parallel.

*Female*.—Eyes separated by nearly twice their width; antennæ one-half as long as the body, feebly incrassate toward apex, the ninth joint very feebly obconical and nearly twice as long as wide.

Length 8.0–9.0 mm.; width 2.3–2.8 mm.

Nevada; California (Siskiyou Co.).

This species greatly resembles *gracilis*, but is more slender and rather less convex, with the legs entirely black, and the punctures of the elytral striæ much larger and more conspicuous. All the specimens before me are deep black, but, as the name indicates, the color may perhaps occasionally be of a bluish tinge.

### LOBOPODA Sol.

*Allecula* Say, Lec.

The species of *Lobopoda* are, as a rule, above the average of the family in point of size, and are sometimes surprisingly closely allied among themselves. The form is generally more or less oblong-oval and gradually pointed behind, and the punctures of the elytral series are almost invariably finer or more or less linear toward apex, often becoming completely obsolete.

The tarsal lobes are especially highly developed, and generally differ sexually to a marked degree, the lobes of the penultimate joint being, however, usually free from sexual modification. Attempts have been made to subdivide the genus upon the basis of variation in the number and disposition of the lobed joints in the male and female, but, as in most characters of this nature, there are so many intergrading forms, that these efforts have only met with partial success.

These tarsal modifications are useful, however, in tabulating the

species, but as the number of representatives within the limits of the United States is comparatively small, and as the male of several of our species is still unknown to me, I have, in the following preliminary table, simply employed general characters relating to superficial form and sculpture, and based upon the limited material before me.

Our species as far as known may be distinguished as follows:—

|   |                      |
|---|----------------------|
| Pronotal punctures very sparsely and unevenly distributed, generally more or less densely aggregated along the median line and in front of the scutellum. |                      |
| Pronotum rather polished, the punctures circular and perforate.....   | <b>socia</b>         |
| Pronotum exceedingly dull and alutaceous, the punctures larger, uneven in size, shallow, elongate and variolate.....                                      | <b>subcuneata</b>    |
| Pronotal punctures more closely placed and evenly distributed, impressed.   |                      |
| Eyes in the female separated by approximately one-half their width.   |                      |
| Eyes in the male not quite contiguous, their inner margins broadly rounded.....   | <b>punctulata</b>    |
| Eyes in the male subcontiguous along a long fine straight double line.  |                      |
|   | <b>oculatifrons</b>  |
| Eyes in the female separated by distinctly less than one-half their width; legs usually red throughout .....  | <b>erythrocnemis</b> |
| Eyes in the female separated by fully their own width.....  | <b>atra</b>          |

A number of additional species will almost undoubtedly be discovered when southern Texas is more thoroughly and systematically explored.

**L. socia** Lec.—Proc. Ac. Phil., VII, 1854, p. 84.—Elongate-elliptical, castaneous above, the under surface and posterior legs blackish; anterior and intermediate legs and antennæ rufo-castaneous; integuments rather polished throughout, the pubescence coarse, rather short, sparse. *Head* somewhat finely, sparsely, unevenly punctate; eyes large and approximate; antennæ very slender and filiform, nearly one-half as long as the body, the joints cylindrical and nearly four times as long as wide, the third slightly shorter than the fourth. *Prothorax* not quite twice as wide as long, the apex truncate and three-fourths as wide as the base, the latter transverse, the sinuations broad and strong; sides just visibly convergent from the basal angles to anterior third and straight, thence strongly rounded to the apex; basal angles right, not appreciably blunt; disk rather coarsely, very sparsely and unevenly punctate, the punctures larger and closer before the scutellum and narrowly along the median line; basal foveæ large and distinct. *Elytra* four times as long as the prothorax, and, in the middle, about one-fourth wider, gradually acute toward apex, the base very slightly wider than that of the prothorax; sides feebly, broadly arcuate; disk with rather fine, very even, moderately impressed series of somewhat coarse, deep, close-set punctures, the intervals nearly flat, finely, sparsely punctate. *Abdomen* finely but strongly, very



sparsely punctate. *Legs* long and slender; basal joint of the hind tarsi four-fifths as long as the remainder.

*Male*.—Unknown.

*Female*.—Eyes separated by one-fourth of their width; anterior tarsi with the two basal joints simple, the third rudimentarily lobed, the fourth strongly lobed, the intermediate with the three basal joints simple, the fourth strongly lobed, posterior simple, the penultimate joint with a short, narrow, extremely rudimentary lobe.

Length 11.0 mm.; width 4.2 mm. ♀.

Texas (Laredo). Cab. LeConte.

The description is drawn from the female. It is very closely allied to *mexicana* Champ., but differs from the corresponding sex of that species in its slightly closer punctuation on the elytral intervals; there are usually but two punctures in a transverse direction in *mexicana*, while in *socia* there are about three, which are rather smaller than in the former. This is the only decided difference of any kind which it is possible to discover, but I think that the two species are distinct and that this would be clearly evident if the males were compared. The elytra are perfectly simple and narrowly rounded at apex in the female of *socia*. This species is not at all closely related to *punctulata*.

**L. subcuneata** n. sp.—Elongate, moderately convex, the elytra cuneate, black throughout, the head and prothorax smooth but dull and strongly alutaceous, the elytra more shining; pubescence coarse, moderate in length, very sparse. *Head* finely, rather densely, unevenly punctured, the epistoma coarsely, much more sparsely so and more shining; eyes very large; antennæ filiform, fully one-half as long as the body. *Prothorax* three-fifths wider than long, the apex truncate and two-thirds as wide as the base, the latter transverse, with broad and deep sinuations, the angles right, not blunt; sides parallel and straight in basal two-thirds, then broadly, evenly rounded to the apex; disk extremely obsoletely impressed along the middle, coarsely, extremely unevenly punctate, the punctures mingled with smaller ones, dense toward the median line and base, sparse laterally, with two large impunctate discal areas; punctures shallow and variolate, the larger ones elongate-elliptical in form; basal fovæ large and distinct but shallow. *Elytra* four times as long as the prothorax, and, just behind the humeri, very slightly wider; sides feebly convergent and nearly straight from this point nearly to the apex, which is then more abruptly, acutely rounded; disk finely but distinctly striate, the striae very finely, not closely punctate, the intervals nearly flat, finely, extremely sparsely punctate. *Abdomen* in the male finely, not strongly, very sparsely punctate throughout. *Legs* slender, the hind tarsi nearly as long as the tibiae, with the basal joint equal in length to the remainder.

*Male*.—Eyes nearly as in *punctulata*; antennæ with the third joint but

slightly shorter than the fourth; tarsal characters as in *punctulata*, except that the third joint of the intermediate tarsi is feebly lobed.

*Female*.—Unknown.

Length 9.0 mm.; width 3.0 mm. ♂.

Texas.

The unique specimen, which is fortunately a male, represents a remarkably distinct species, not at all closely related to any other here described, and readily known by its cuneate elytra, dull lustre and peculiar pronotal punctuation.

The anterior tibiæ of the male are broadly, very obtusely toothed internally at basal two-fifths, this character being common to the males of a large number of species; in *punctulata* and *oculatifrons* it is more nearly in the form of a broad swelling.

**L. punctulata** Melsh.—Proc. Ac. Phil., III, 1846, p. 59.—Elongate-oval, dark castaneous; under surface and legs piceous-black, the tarsi and antennæ rufo-ferruginous; surface strongly polished throughout, the pubescence rather fine, somewhat long and sparse. *Head* rather strongly, sparsely punctate; eyes very large; antennæ slender, filiform. *Prothorax* one-half to three-fourths wider than long, the sides distinctly convergent and nearly straight from the basal angles nearly to the apex, then strongly rounded for a short distance to the apex, which is truncate and three-fourths as wide as the base, the latter transverse, the sinuations broad and deep; basal angles right, not blunt; disk obsoletely, broadly impressed along the middle, very coarsely, nearly evenly and rather closely punctate, the punctures separated by two to three times their width; basal foveæ distinct. *Elytra* four times as long as the prothorax and scarcely perceptibly wider than the base of the latter, gradually acute behind from the middle; sides nearly straight thence to the base; disk rather finely but deeply striate, the punctures moderately coarse and not very approximate; intervals feebly convex, rather finely and not very closely punctured. *Abdomen* somewhat strongly, sparsely punctate, a little more closely so along the middle in the male. *Legs* long, slender, the basal joint of the hind tarsi equal in length to the remainder.

*Male*.—Narrower than the female; eyes broadly rounded throughout internally and subcontiguous through an interval equal to one-half the length of the epistoma; antennæ fully one-half as long as the body, with the third joint two-thirds as long as the fourth; anterior tarsi with the four basal joints strongly lobed beneath, the intermediate with the fourth only, the posterior with the penultimate narrowly and rudimentarily lobed.

*Female*.—Eyes separated by fully one-half their own width; antennæ two-fifths as long as the body, the third joint but slightly shorter than the fourth; anterior tarsi with the three basal joints perfectly simple, the fourth strongly lobed, intermediate and posterior nearly as in the male.

Length ♂ 9.0, ♀ 9.3–9.7 mm.; width ♂ 3.0, ♀ 3.5–3.7 mm.

Texas; Kansas; New Jersey.

The elytral intervals are slightly more sparsely punctured in the male than in the female. *Punctulata* may be distinguished at once from *socia* by the pronotal punctuation, the punctures being widely dispersed except toward base and narrowly along the middle in the latter, and the size of *socia* is much greater. In *punctulata* the eyes are not absolutely contiguous in the male, but are separated by a narrow setose isthmus; in *oculatifrons* they are contiguous along a fine straight double line which is however also setigerous.

**L. oculatifrons** n. sp.—Elongate-oval, moderately convex, black throughout; anterior tarsi ferruginous; antennæ piceous, gradually paler toward apex; lustre polished throughout, the pubescence rather long, fine, moderately sparse, piceo-fulvous in color and not at all conspicuous. *Head* rather coarsely, sparsely punctate; eyes very large but extremely unequal in the sexes; antennæ long, slender and filiform, one-half as long as the body. *Prothorax* from one-half to two-thirds wider than long, subquadrate, the sides almost parallel and straight in basal two-thirds, then strongly, evenly rounded to the apex, the latter truncate, three-fourths as wide as the base, which is transverse, the sinuations broad and very strong; basal angles right, not blunt; disk coarsely, evenly and somewhat closely punctate throughout, obsolete impressed along the middle; punctures generally separated by two to three times their width; basal foveæ distinct. *Elytra* four times as long as the prothorax and about one-fifth wider, gradually acute behind from about the middle, the sides parallel and nearly straight toward base; humeri very narrowly exposed; disk rather finely but strongly, evenly striate, the striae punctures moderately coarse, deep, perforate and rather approximate; intervals nearly flat, finely punctate, sparsely so in the male, decidedly densely so in the female. *Abdomen* rather finely but strongly, sparsely punctate, not noticeably more densely so along the middle in the male. *Legs* long and slender; basal joint of the posterior tarsi fully equal in length to the remainder.

*Male*.—More slender than the female, the eyes extremely large, contiguous along a fine straight line which is nearly as long as the entire epistoma; antennæ with the third joint two-thirds as long as the fourth; tarsal characters as in *punctulata*.

*Female*.—Eyes separated by slightly more than one-half their width; antennal and tarsal characters as in *punctulata*.

Length ♂ 9.5, ♀ 10.2–10.8 mm.; width ♂ 3.2, ♀ 3.8–4.0 mm.

Texas.

This species, while allied to *punctulata*, may be easily distinguished by its larger size, more parallel and subquadrate prothorax, intense black color, the larger eyes of the male and the decidedly denser elytral punctuation especially of the female. The difference in the density of elytral punctuation of the male and female is extremely pronounced.

**L. erythrocnemis** Germ.—Ins. Spec. Nov., 1824, p. 164.—Oblong-oval, moderately convex, polished, black above and beneath, the legs and antennæ throughout rufous; pubescence coarse, fulvous, moderate in length, sparse. *Head* somewhat strongly, very sparsely, unevenly punctate; eyes large; antennæ slender, about one-half as long as the body, the third joint slightly shorter than the fourth in both sexes. *Prothorax* one-half wider than long, the sides parallel or feebly convergent from the basal angles to anterior third, then strongly rounded to the apex, the latter truncate and fully two-thirds as wide as the base, the sinuations strong; disk extremely obsoletely impressed along the middle, not very coarsely, rather evenly and unusually sparsely punctured, the basal foveæ almost obsolete. *Elytra* but slightly wider than the prothorax and about four times as long, the apex acutely ogival; sides nearly parallel and straight; disk finely but deeply striate, the striae moderate, rather large and perforate toward base, smaller but still distinct to the apex; intervals finely, sparsely punctate. *Abdomen* finely but distinctly, very sparsely punctate. *Legs* slender.

*Male*.—Eyes separated by a narrow isthmus, the inner margins broadly, evenly rounded; tarsal characters as in *punctulata*.

*Female*.—Eyes separated by one-third to nearly two-fifths their width.

Length 8.5–9.5 mm.; width 2.9–3.6 mm. ♂ ♀.

Louisiana.

The male above noted has the legs piceous-black, and the same condition exists in one of the females. Two other females have the legs normally red throughout, the species is apparently variable therefore in this respect. It may be distinguished from *punctulata* by its smaller size and much sparser, feebler pronotal punctures, as well as the more approximate eyes of the female, although in the male they do not appear to be quite as approximate as in the corresponding sex of *punctulata*. As remarked by Mr. Champion, *erythrocnemis* is allied to the Mexican *lævicollis*, but the latter differs in its longer, more slender form and still sparser, more unevenly dispersed pronotal punctation.

*Erythrocnemis* probably inhabits the Mississippi valley as far to the northward as southern Illinois.

**L. atra** Say.—Journ. Ac. Phil., V, 1827, p. 242; *nigrans* Melsh: Proc. Ac. Phil., III, 1846, p. 60.—Elongate-oval, strongly convex, black throughout, the tarsi alone paler, rufescent, polished throughout, the pubescence moderate in length, coarse, fulvous, rather sparse. *Head* coarsely, very sparsely, unevenly punctate, the eyes moderate or small; antennæ slender and filiform. *Prothorax* rather long, two-fifths wider than long, the apex truncate, fully three-fourths as wide as the base, the latter transverse, with the sinuations broad and deep; basal angles right; sides parallel and straight in basal two-thirds, then arcuate and convergent to the apex; disk unusually convex, not

at all impressed, not very coarsely, rather feebly, evenly, sparsely punctate, the basal foveæ broadly impressed, distinct. *Elytra* a little more than three times as long as the prothorax and scarcely at all wider, gradually, acutely ogival in apical two-fifths; sides parallel, nearly straight; disk very coarsely, deeply striate, the stria punctures unusually coarse and deep toward base but totally obsolete toward apex, the intervals rather convex, finely, sparsely, confusedly punctate. *Abdomen* finely but strongly, sparsely punctate. *Legs* slender; basal joint of the hind tarsi equal in length to the remainder.

*Male*.—Not examined.

*Female*.—Eyes separated by their own width; third and fourth antennal joints equal; tarsal characters similar to those of *punctulata*.

Length 7.5 mm.; width 2.7–2.9 mm. ♀.

Connecticut; Pennsylvania.

The present species is chiefly notable for its extreme northern habitat. The eyes are much smaller than in any of the others here enumerated, and it is also remarkable in having the punctures of the elytral striæ unusually coarse and conspicuous toward base; but, as is often the case, they become completely obsolete toward apex.

#### **HYMENORUS** Muls.

The two genera *Lobopoda* and *Hymenorus* are peculiarly American, and together comprise probably more than one-half of the entire family in our continent, the former being essentially tropical but entering the southern parts of the United States in moderate number, and the latter northern in its distribution but overrunning Mexico with many species. *Hymenorus* is a nearctic, and, to some extent also, a palæarctic genus, while *Lobopoda* is entirely neotropical. *Hymenorus* is one of the best defined of our genera, although the species are comparatively diversified in facies. The species are as a rule much smaller than those of *Lobopoda*.

The lobes of the tarsi in *Hymenorus* generally differ from those of *Lobopoda* in being small, and never more than two in number on the two anterior and one on the posterior pair. The last joint of the maxillary palpi is usually in the form of a right angled triangle, with the apex and the outer side subequal in length, but rarely it becomes more dilated and quite similar to the prevailing type in *Lobopoda* and *Allecula*. The anterior coxæ are always separated by a narrow but distinct prosternal process, and the posterior by a narrow acutely angulate abdominal projection, the entire structure

of the under surface being surprisingly constant throughout the genus when compared, for example, with that of *Mycetophila*.

The posterior tarsi are always slender, with the basal joint elongate and sometimes slightly less, but often much greater, in length than the remainder. The punctuation and pubescence are, as a rule, rather dense, the latter pale, somewhat short, coarse and conspicuous. The eyes are generally moderate and subequal in size in the two sexes, but sometimes larger, approaching the form seen in *Lobopoda*; they are then nearly always subject to the sexual modifications characterizing that genus. The antennæ are usually slender and filiform, moderate in length, with the joints more or less obconical, sometimes stouter and distinctly attenuate toward apex, the third joint being nearly always equal to or slightly longer than the fourth and similar in the sexes, but in a moderate number of species becoming very short in the male, although still normal in the female.

The general form of the body is oblong or oval, rather compact, with the prothorax subequal in width to the base of the elytra, the humeri never being in the least broadly exposed at base. The elytra are almost invariably distinctly punctate-striate, although in many cases the stria punctures become obsolete toward apex as in *Lobopoda*, and in one instance—*inquilinus*—the striæ are completely effaced throughout, being traceable with great difficulty only in the immediate neighborhood of the base.

While the species are usually constant and easily separable among themselves by marked structural differences, sexual or otherwise, I have found the tabular classification of them a most difficult and unsatisfactory problem. None of the structural peculiarities so valuable in separating allied forms, continue constant throughout a sufficient number of species to enable us to define large groups with rigorous exactness, and I have been forced finally to adopt a method of subdivision depending largely upon general habitus and sculpture.

There are probably but few species common to the United States and Mexico, at least below the latitude of Durango. Mr. Champion has kindly sent me representatives of his *emmenastoides*, *pallidus*, *colonoides*, *guatemalensis* and *americanus*, all of which are widely different from any species which we possess. The densely punctate species, so characteristic of the southwestern fauna, are for the most part more or less local in distribution, contrasting strongly

in this respect with the more northern and eastern polished and sparsely punctate forms.

It is hoped that the following table may aid somewhat in identification, but as there are undoubtedly many species yet to be discovered, it will probably prove more or less ambiguous unless used solely as a key to the descriptions:—

- Punctuation of the elytral intervals confused or forming more than a single series .....2
- Punctuation of the elytral intervals forming a single even series.....23
- 2**—Entire upper surface polished, the pronotal punctuation sparse; basal joint of the hind tarsi generally much longer than the remainder; antennæ variable in length and structure, the third joint often sexually modified.....3
- Upper surface generally more or less dull, the pronotum densely punctured; third joint of the antennæ not noticeably modified sexually.....8
- 3**—Third antennal joint of the male equal or subequal in length to the fourth.....4
- Third antennal joint of the male distinctly shorter than the fourth.....7
- 4**—Elytral striæ obsolete toward apex .....5
- Elytral striæ distinct throughout the length .....6
- 5**—Elytra with a large humeral red spot; size very small....1 **humeralis**  
Elytra without basal pale area.
- Antennæ short, barely two-fifths as long as the body.
- Prothorax strongly rounded at apex .....2 **niger**
- Prothorax much shorter and more transverse; subtruncate at apex.  
**3 infuscatus**
- Antennæ long, about one-half as long as the body; size much larger.  
**4 picipennis**
- 6**—Prothorax strongly transverse; eyes small, separated by nearly one-half more than their own width in the male .....5 **punctulatus**
- Prothorax longer; eyes larger, separated by their own width or but slightly more.
- Pronotum finely or moderately coarsely punctate.
- Form slender, parallel; antennæ short, scarcely more than one-third as long as the body .....6 **melsheimeri**
- Form broad, oval; antennæ fully two-fifths as long as the body.  
**7 obesus**
- Pronotum coarsely, deeply punctate .....8 **pilosus**
- 7**—Antennæ long, fully one-half as long as the body; pronotal punctuation coarse.
- Third joint (male) much longer than the second and more than one-half as long as the fourth.
- Intermediate joints of the antennæ strongly obconical, scarcely twice as long as wide; prothorax long and subequal in width to the base of the elytra.....9 **difficilis**

- Intermediate joints feebly obconical, much more than twice as long as wide; prothorax much shorter and more transverse, distinctly narrower than the base of the elytra .....10 **perforatus**  
 Third joint (male) but slightly longer than the second and rather less than one-half as long as the fourth.....11 **curticollis**  
 Antennæ shorter, about two-fifths as long as the body.

Pronotum rather finely punctured, strongly but broadly rounded at apex.

12 **obscurus**

Pronotum shorter, coarsely punctate, broadly, feebly arcuate at apex, the sides less convergent from the basal angles; size much smaller.

13 **communis**

**8**—Eyes large, separated by a distance which in neither sex exceeds one-half of their width; antennæ generally notably long; basal joint of the hind tarsi usually much longer than the remainder.....9

Eyes small or moderately large, always separated by more than one-half of their own width, usually similar in the sexes; antennæ generally short; basal joint of the hind tarsi variable.....14

**9**—Pronotum finely punctate.....10

Pronotum coarsely punctate.....13

**10**—Pronotal punctures very densely crowded, the interspaces not distinct...11

Pronotal punctures dense but not in close contact, the interspaces distinct...12

**11**—Elytra polished, the punctuation rather sparse.....14 **discrepans**

Elytra dull and alutaceous.

Larger species, not less than 7 mm. in length.

Punctures of the elytral intervals very fine, feeble and moderately dense; abdomen not noticeably more densely punctate along the middle in the male.....15 **grandicollis**

Punctures of the intervals fine but deep, excessively dense; abdomen very densely punctate along the middle in the male.....16 **apacheanus**

Small species, not exceeding 4 mm. in length.....17 **exiguus**

**12**—Color pale ochreous testaceous throughout; posterior femora unusually robust; antennæ very long, much more than one-half as long as the body.

18 **helvinus**

Color piceous-black, the posterior femora normal.

Elytra not more than twice as long as wide.

Head polished, very finely and sparsely punctate behind; antennæ longer; size larger.....19 **porosicornis**

Head coarsely, deeply, more densely punctate; antennæ shorter, the joints less elongate.....20 **intermedius**

Elytra distinctly more than twice as long as wide; body elongate, parallel.

21 **prolixus**

**13**—Body elongate or oblong.

Antennæ less than one-half as long as the body; very large species.

22 **occidentalis**

Antennæ more than one-half as long as the body in the male, notably shorter in the female.



- Ferruginous, the elytra black in apical two-thirds .....23 **dorsalis**  
 Piceous-black throughout .....24 **discretus**  
 Body oval, the elytra in the middle much wider than the prothorax, the sides almost continuous in curvature with those of the latter...25 **convexus**  
**14**—Form oval, the elytra in the middle much wider than the prothorax, the sides arcuate and subcontinuous with those of the latter.....15  
 Form oblong or oblong-oval, the elytra subequal to or slightly wider than the prothorax, with the sides parallel and straight or very nearly so, and the humeri generally narrowly rounded for a slight distance to the base of the prothorax .....16  
**15**—Elytra piceous-black, the head and prothorax more or less rufo-ferruginous and dull.  
 Eyes separated by much less than their own width.....26 **densus**  
 Eyes separated by distinctly more than their own width....27 **ruficollis**  
 Color uniform throughout.  
 Punctures of the elytral striæ very coarse, rounded, perforate.  
 Antennæ less than one-half as long as the body.....28 **dissensus**  
 Antennæ long, distinctly more than one-half as long as the body.  
 29 **seriatus**  
 Punctures of the elytral striæ fine, linear.....30 **testaceus**  
**16**—Punctures of the elytral intervals fine and rather sparse, the elytra somewhat strongly shining .....17  
 Punctures of the elytral intervals rather deeper, very dense, the lustre generally dull throughout, the elytra rarely slightly polished .....20  
**17**—Elytra not at all wider than the prothorax.....18  
 Elytra wider than the prothorax, very slightly so in *tenellus*, but otherwise distinctly .....19  
**18**—Prothorax slightly inflated toward base and rather wider than any part of the elytra.  
 Elytra with distinct series of punctures; color piceous-black; head distinctly, rather closely punctate.....31 **rotundicollis**  
 Elytra with scarcely a trace of punctured series or impressed lines; color pale; head extremely sparsely punctured .....32 **inquilinus**  
 Prothorax not inflated toward base and equal in width to the elytra; antennæ very stout, compressed, and attenuate toward apex, at least in the female.  
 33 **fusicornis**  
**19**—Antennæ fully one-half as long as the body, the latter elongate, parallel and depressed.....34 **nitidipennis**  
 Antennæ distinctly less than one-half as long as the body, the latter strongly convex.  
 Larger species; pubescence long; pronotal punctures very coarse and densely crowded .....35 **inæqualis**  
 Smaller species, the pubescence moderate in length; pronotal punctures finer, not in mutual contact at least toward the middle of the disk.  
 Elytral striæ extremely fine and scarcely at all impressed laterally; body slender.....36 **tenellus**

- Elytral striæ unusually coarse and distinctly impressed.  
 Prothorax short and transverse, the sides parallel in basal half.  
 37 **sobrinus**
- Prothorax longer, the sides convergent from the basal angles.  
 38 **floridanus**
- 20**—Body rather strongly convex .....21  
 Body distinctly depressed .....22
- 21**—Prothorax shorter, not less than one-half wider than long.  
 Eyes separated by scarcely two-thirds of their own width...39 **confertus**  
 Eyes separated by distinctly more than two-thirds of their width.  
 Elytral punctuation a little sparser, similar to that of *confertus*.  
 40 **fusculus**
- Elytral punctuation excessively dense, similar to that of *punctatissimus*.  
 41 **macer**
- Prothorax unusually long, but slightly more than one-third wider than long;  
 elytral punctuation excessively dense .....42 **indutus**
- 22**—Antennæ very short, the intermediate joints barely longer than wide.  
 43 **punctatissimus**
- Antennæ longer, the joints distinctly longer than wide.  
 Elytral striæ rather coarse and distinct, the punctures of the intervals  
 moderately fine and unusually strong .....44 **deplanatus**
- Elytral striæ exceedingly fine, feebly impressed, the punctures of the inter-  
 vals fine and much sparser .....45 **gemellus**
- 23**—Strongly polished and pale flavo-testaceous throughout.  
 46 **uniseriatus**

1 **H. humeralis** Lec.—N. Spec. Col., 1866, p. 135.—Elongate-oval, moderately convex, polished, piceous-black throughout; antennæ fuscous; legs pale flavate; each elytron with a large suffused basal pale area; pubescence long, moderately dense, semi-erect, pale and conspicuous. *Head* feebly convex, rather finely but deeply, somewhat densely punctate throughout, the eyes rather small, separated by one-fourth more than their own width; antennæ somewhat robust, nearly two-fifths as long as the body, the joints feebly obconical, not quite twice as long as wide, the third scarcely as long as the fourth. *Prothorax* about three-fifths wider than long, the apex strongly arcuate and continuous with the sides, the latter becoming gradually less strongly arcuate and nearly parallel in basal third, the angles right, not rounded; base transverse, the sinuations rather broad but distinct; disk very feebly impressed along the middle toward base, rather coarsely, sparsely punctate. *Elytra* three times as long as the prothorax, and, at the middle, very slightly wider than the latter, gradually, acutely ogival at apex, the sides parallel, feebly arcuate and continuous with those of the prothorax; disk with feebly impressed series of rather fine punctures, the intervals finely, confusedly, sparsely and somewhat unevenly punctate, the punctures but slightly smaller than those of the striæ. *Abdomen* finely but strongly, moderately sparsely punctured. *Legs* very slender, the basal joint of the hind tarsi one-half longer than the remainder. Length 4.5 mm.; width 1.6 mm.

Kentucky. Cab. LeConte.

The unique representative is a male, and is not in very good condition for observation. In this specimen the intromittent organ is far extruded, and the curious hinged spike protrudes from the groove along its lower surface in a nearly perpendicular direction.

The fourth joint of the maxillary palpi is rather short and robust, the apex scarcely as long as the outer side.

This remarkable species is quite similar in general appearance to certain members of the genus *Mycetophila*, especially *M. megalops*, and the slender tarsi, with unusually small narrow and inconspicuous lobes, add to this superficial resemblance an element which may indicate a still closer affinity. It is readily distinguishable, however, from any of those species of *Mycetophila* which it most nearly resembles, by its punctate-striate elytra and altogether different form of the prothorax, the latter being strongly rounded at apex.

2 **H. niger** Melsh.—Proc. Ac. Phil., III, 1846, p. 59.—Elongate-oval, rather convex and slender, highly polished throughout, black above, piceous-black beneath, the abdomen sometimes more rufescent; legs and antennæ piceous-black, the femora toward base and the tarsi paler, rufous; pubescence coarse, rather long, moderately dense. *Head* somewhat coarsely, sparsely punctate, the eyes moderate, separated by a little more than their width; antennæ rather short, moderately slender, filiform, two-fifths as long as the body, the joints almost parallel, fully twice as long as wide, the third and fourth equal, elongate. *Prothorax* three-fifths wider than long, broadly parabolic anteriorly, the sides divergent posteriorly and moderately arcuate, becoming parallel and nearly straight in less than basal third, the angles nearly right, slightly blunt; base transverse, the sinuations narrow and moderate; disk scarcely impressed, finely, very sparsely punctate, the punctures generally separated by three or four times their own diameters. *Elytra* nearly three and one-half times as long as the prothorax and not appreciably wider, rather gradually, acutely rounded behind; sides parallel and nearly straight; disk with almost completely unimpressed series of small but deep punctures, the series entirely obsolete toward apex, more distinct toward base, the intervals finely but deeply, sparsely punctate. *Abdomen* finely, sparsely punctate, the metasternum rather coarsely, sparsely so externally. *Legs* slender, the basal joint of the hind tarsi fully one-third longer than the remainder. Length 5.3–6.0 mm.; width 2.1–2.4 mm.

Canada; Pennsylvania; Florida; Texas.

The individual above described is a male from Pennsylvania, and represents the typical form. The numerous specimens before me are divisible into six sections, which are in all probability distinct species, but time and material are wanting to definitely fix their values

at present. One of these, represented by twelve specimens, is rather more slender than the type, with bright flavate legs and piceous upper surface, the elytra being feebly and suffusedly rufescent toward base. Another, represented by a single specimen from Florida, has the pronotum rather coarsely punctate, and the eyes larger. Still another, represented by a single male from Indiana, is larger, with the pronotum very finely punctate, the eyes being large and separated by less than their own width.

At a future time, with more material, it will be my endeavor to properly define these allied forms.

3 **H. infuscatus** n. sp.—Oblong-oval, moderately convex, polished throughout, dark brownish-piceous, the under surface and legs slightly paler, rufescent; pubescence rather long and coarse, somewhat sparse but conspicuous. *Head* feebly convex, rather coarsely but feebly, sparsely punctate; eyes small, separated by two-fifths more than their own width; antennæ slender, the third and fourth joints slender and equal. *Prothorax* transverse, about four-fifths wider than long, the apex broadly, feebly arcuate, three-fifths as wide as the base, the sides very strongly rounded and convergent anteriorly, becoming parallel and almost straight in basal half, the basal angles right and narrowly rounded; base transverse and straight laterally, broadly, roundly lobed in the middle, the lobe more prominent posteriorly than the lateral portions; disk obsoletely impressed toward base in the middle and in the position of the usual foveæ, rather coarsely and sparsely punctate. *Elytra* four times as long as the prothorax, and, behind the middle, just visibly wider than the latter, acutely ogival in apical third; sides very feebly arcuate, especially behind, thence nearly straight to the base and continuous with those of the prothorax; disk with feebly impressed rows of rather small but distinct, rounded punctures which become obsolete toward apex, the intervals feebly convex, finely, confusedly and rather sparsely punctate. *Abdomen* minutely, sparsely punctate throughout. *Legs* slender, the basal joint of the hind tarsi equal in length to the remainder. Length 5.7 mm.; width 2.2 mm.

California (Los Angeles).

The single specimen before me is a male. The species does not greatly resemble any other, although perhaps most closely allied to *niger*. The pubescence is unusually long, and the prothorax short and coarsely punctate.

4 **H. picipennis** n. sp.—Oblong-oval, rather feebly convex, piceous-black above, the elytra slightly paler, piceous; under surface piceous-black, the legs concolorous; tarsi and antennæ slightly paler, dark brown; surface highly polished throughout, the pubescence moderate in length, coarse, pale, decidedly sparse. *Head* very sparsely, coarsely punctate, the eyes rather large, separated by two-thirds to three-fourths their own width; antennæ

long, somewhat robust, one-half as long as the body, the joints equal in length throughout, the intermediate strongly obconical and nearly twice as long as wide, the third very long, cylindrical and slightly longer than the fourth. *Prothorax* two-thirds to three-fourths wider than long, somewhat parabolic and strongly rounded at apex, the sides becoming parallel and distinctly arcuate in basal half to two-thirds, the angles nearly right, not rounded; base transverse, the sinuations rather narrow and distinct; disk scarcely impressed, very finely and sparsely, somewhat feebly punctate. *Elytra* four times as long as the prothorax and subequal to the latter in width, gradually very acutely ogival toward apex, the sides parallel and scarcely visibly arcuate; disk with feebly impressed series of punctures, which are rather coarse and distinct toward base, but almost completely obsolete toward apex, the intervals minutely very sparsely punctate, these punctures becoming rather coarser and more asperate toward apex. *Abdomen* minutely, sparsely punctate throughout. *Legs* slender; femora rather robust, sparsely punctate; basal joint of the hind tarsi unusually long, fully one-half longer than the remainder. Length 7.0 mm.; width 2.6–2.8.

#### Michigan.

The species above described is not likely to be confounded with any other, being distinguishable by its long antennæ with strongly obconical joints, the third a little longer than the fourth—which is unusual in this section,—its larger eyes and incomplete elytral series. It also differs in its very fine, extremely sparse pronotal punctuation. The two specimens before me are apparently females.

**5 H. punctulatus** Lec.—Proc. Ac. Phil., 1859, p. 78.—Oblong-oval, moderately convex, polished and pale rufo-testaceous throughout, the pubescence fine, short, subrecumbent, pale but rather sparse and not conspicuous. *Head* rather large and strongly convex, somewhat coarsely, sparsely punctate, the eyes small, separated by two-fifths more than their own width; antennæ rather short and robust, distinctly attenuate toward apex, but little more than one-third as long as the body, the intermediate joints somewhat feebly obconical, the third and fourth subequal. *Prothorax* strongly transverse, about twice as wide as long, the apex broad and subtruncate, the base transverse, broadly, feebly arcuate in the middle; sides broadly arcuate and convergent in apical two-fifths, thence nearly parallel to the basal angles which are obtuse and rather blunt; disk scarcely at all impressed, finely, rather densely punctate, the punctures separated by about twice their own diameters. *Elytra* nearly five times as long as the prothorax and rather distinctly wider, somewhat abruptly ogival in apical third; sides parallel and just visibly arcuate; humeri rounded and oblique externally, but not exposed at base; disk with feebly impressed series of fine, rather approximate punctures, the intervals minutely, confusedly and somewhat sparsely punctate. *Abdomen* minutely, rather feebly and sparsely punctate. Length 6.3 mm.; width 2.6 mm.

California. Cab. LeConte.

Although bearing a general resemblance to the *obscurus* group of eastern species, *punctulatus* differs remarkably from all of them in its fine and much shorter pubescence. The type specimen is a male, and is in a poor state of preservation, the pronotum being broken and crushed so that it is somewhat distorted in outline; the above measurements have made allowance for this as far as possible. The posterior legs are entirely wanting in the type. It is distinguishable from *infuscatus* by its broader form, relatively shorter prothorax and longer elytra, shorter, stouter antennæ and short pubescence.

The antennæ are quite robust, unusually compact and cylindrical, with the third joint just visibly longer than the fourth and both of these much longer than joints five to eleven, which are equal in length, the fifth about one-half longer than wide, the tenth nearly two and one-half times as long as wide.

6 **H. melsheimeri** n. sp.—Oblong-elongate, parallel, moderately convex, piceous-black above, the entire under surface, legs and antennæ paler, rufo-ferruginous; surface polished; pubescence nearly as in *obscurus*. Head rather coarsely, deeply, sparsely punctate, the eyes moderate, separated by slightly more than their own width; antennæ short, stout, filiform, not more than one-third as long as the body, the last three joints rapidly shorter, joints three to nine equal in length, the intermediate almost parallel, twice as long as wide. Prothorax three-fourths wider than long, the apex broadly arcuate, continuous in curvature around the apical angles, the sides becoming parallel and feebly arcuate almost through basal two-thirds; basal angles right, not rounded; base transverse, with a short rounded median lobe; disk obsolete impressed only along the middle toward base, finely, sparsely punctate, the punctures round, perforate and separated by about three times their own diameters. Elytra nearly four times as long as the prothorax and equal to it in width, rather gradually, acutely pointed in apical third; sides parallel and nearly straight; disk with feebly impressed series of fine, not very close-set and inconspicuous punctures, the intervals minutely, sparsely punctate. Abdomen finely, sparsely punctate. Legs slender; basal joint of the hind tarsi nearly one-half longer than the remainder, slightly arcuate. Length 7.3 mm.; width 2.7 mm.

Michigan.

The unique specimen before me is immediately distinguishable from any other in this section by its narrower, more parallel form, and unusually short, rather stout, but filiform antennæ, with nearly parallel-sided joints. The sex of the type cannot be definitely determined without dissection.

7 **H. obesus** n. sp.—Broadly oblong-oval, rather strongly convex, polished throughout, piceous-black, the abdomen black; legs piceous, the tarsi paler; antennæ rufo-fuscous; pubescence moderate in length, rather sparse, coarse, pale in color. *Head* sparsely, somewhat coarsely punctate; eyes moderate, separated by a little less (male), or a little more (female), than their own width; antennæ slender, filiform, two-fifths as long as the body, the joints nearly parallel, gradually slightly shorter toward apex, the third a little shorter than the fourth in the male, slender, the fourth three times as long as wide. *Prothorax* two-thirds to three-fourths wider than long, the apex two-thirds as wide as the base, broadly arcuate, the sides parallel and feebly arcuate in basal half, thence rather strongly convergent and arcuate to the apex; basal angles distinctly obtuse and blunt; base transverse, the sinuations rather broad and feeble; disk scarcely at all impressed, moderately coarsely, strongly, sparsely punctate. *Elytra* from three and one-half to nearly four times as long as the prothorax, toward base barely perceptibly wider than the prothorax, a little more distinctly so posteriorly, rather broadly, obtusely ogival at apex; sides feebly arcuate; disk with feebly impressed series of small, deep, close-set punctures, the intervals finely, rather sparsely punctate in the female, very sparsely so in the male. *Abdomen* finely, sparsely punctate throughout. *Legs* slender; basal joint of the hind tarsi much longer than the remainder. Length 6.7–8.0 mm.; width 3.2–3.5 mm.

New York.

The broadly oval form and more slender, filiform antennæ of this species will serve to distinguish it from *pilosus*, to which it is rather closely allied. The third antennal joint of the male is slightly shorter, and the outer joints decrease more conspicuously in length, than in *pilosus*, and the eyes in the same sex are distinctly larger.

8 **H. pilosus** Melsh.—Proc. Ac. Phil., III, 1846, p. 58.—Rather broad, oblong-oval, moderately convex, black or piceous black throughout, the abdomen, legs and antennæ concolorous, the tarsi paler, rufescent; surface polished throughout; pubescence moderate in length, pale, coarse, rather sparse but conspicuous. *Head* coarsely, deeply, somewhat sparsely punctate, the eyes moderate, separated by from one-third to one-fourth more than their own width; antennæ slender, filiform, two-fifths as long as the body, the joints quite distinctly obovate, more than twice as long as wide, the third and fourth long, exactly equal in both sexes. *Prothorax* three-fourths wider than long, the apex broadly arcuate, three-fourths as wide as the base, not evenly continuous with the sides, the latter convergent and almost evenly arcuate from base to apex in both sexes; basal angles right and distinctly blunt; base transverse, the sinuations rather broad and feeble; disk scarcely at all impressed, quite coarsely, deeply, strongly punctate, the punctures separated by two to three times their diameters in the male, rather closer in the female. *Elytra* nearly four times as long as the prothorax, and, at the middle, slightly wider, rather obtusely rounded behind, the sides parallel and just visibly

arcuate, the humeri broadly oblique to the base of the prothorax; disk with distinctly impressed series of small deep punctures, the intervals sparsely, finely punctate in both sexes. *Abdomen* minutely, very sparsely punctate throughout, rather more closely so in the female, the metasternum coarsely, sparsely so externally. *Legs* slender, the basal joint of the hind tarsi one-third longer than the remainder. Length 7.0–8.0 mm.; width 2.9–3.2 mm.

Massachusetts; Michigan; Virginia.

This species is more northern in distribution than *obscurus*, and is easily distinguishable by its shorter prothorax, coarser punctuation, rather broader, more depressed form, black color and long third antennal joint of the male. The series before me is quite homogeneous.

Two specimens from Florida are not included in the measurements given above, as they appear to represent a much smaller, though very closely allied species. It will require larger series to definitely solve this question.

9 *H. difficilis* n. sp.—Elongate, sub-oval, rather strongly convex, piceous-black throughout, the tarsi paler; surface highly polished, the pubescence rather long, coarse, pale, moderately dense. *Head* coarsely punctate, the punctures very sparse between the eyes, but dense along the base; eyes moderate, separated by their own width; antennæ about one-half as long as the body, robust, strongly compressed, feebly attenuate, joints four to eleven equal in length, very strongly obconical, nearly twice as long as wide, the third joint short, about two-thirds as long as the fourth in the male. *Prothorax* long, about one-half wider than long, broadly, rather strongly arcuate at apex, the sides parallel or very feebly convergent and nearly straight in basal two-thirds, then rounded into the apex; basal angles right, not at all rounded; base transverse, the situations very broad, distinct; disk with obsolete median sub-basal impression, very coarsely, deeply punctate, the punctures round, separated by nearly twice their own widths. *Elytra* about three and one-half times as long as the prothorax, and, in the middle, slightly wider, rather obtusely ogival at apex; sides parallel and just visibly arcuate; disk with unusually broadly, deeply impressed series of punctures, which are coarse, deep and very conspicuous toward base, but finer, though still distinct, toward apex; intervals rather strongly convex toward the suture, finely, sparsely punctate. *Abdomen* finely, very sparsely punctate throughout. *Legs* slender; basal joint of the hind tarsi distinctly longer than the remainder, though rather shorter than usual in this section. Length 7.3 mm.; width 3.0 mm.

New York.

The unique type is a male. The species is not very closely related to any other, and may be distinguished from *pilosus* by its more slender form, more elongate prothorax and short third antennal



joint of the male. From *obscurus* it may be known by its coarser pronotal punctuation, and more robust and compressed antennæ with more strongly obconical joints and with longer third joint in the male, and finally from *perforatus*, by its longer, rather less coarsely and more evenly punctate pronotum, much shorter antennæ and relatively narrower elytra.

10 **H. perforatus** n. sp.—Oblong, moderately convex, polished throughout, dark piceous-brown, the legs and antennæ slightly paler and more ferruginous; pubescence rather long, coarse, semi-erect, pale, moderately dense and conspicuous. *Head* coarsely, deeply but rather sparsely punctate, the eyes rather large, separated by about their own width in the male; antennæ about one-half as long as the body, filiform, rather stout, the joints feebly obconical and more than twice as long as wide. *Prothorax* fully three-fourths wider than long, the apex broadly, strongly arcuate and continuous in curvature with the sides, which become parallel and feebly arcuate in basal half, the angles right, not rounded; base transverse, the sinuations broad and feeble; disk obsoletely impressed along the middle, the basal foveæ nearly obsolete, the surface very coarsely, deeply punctate, the punctures sparse, separated generally by nearly twice their own diameters. *Elytra* a little more than four times as long as the prothorax and about one-fifth wider, obtusely ogival in less than apical third; sides parallel and nearly straight, the humeri narrowly, abruptly rounded to the prothorax and exposed at base; disk with rather strongly impressed series of somewhat coarse, deep punctures, the intervals feebly convex, finely, sparsely, confusedly and rather unevenly punctured. *Abdomen* sparsely, finely punctate. *Legs* slender, the basal joint of the hind tarsi a little longer than the remainder. Length 7.5 mm.; width 2.8 mm.

Pennsylvania; Indiana; North Carolina.

The three specimens before me are males; in this sex the third antennal joint is fully two-thirds as long as the fourth.

Although belonging to the same division of the genus as *obscurus*, the present species differs greatly in its extremely coarse pronotal punctuation, and in having the elytra abruptly and distinctly wider than the prothorax.

11 **H. curticollis** n. sp.—Oblong-oval, rather depressed, black with a piceous tinge throughout, the tarsi, antennæ near the base and palpi paler, rufescent; surface highly polished, the pubescence coarse, pale, sparse and unusually long. *Head* coarsely, deeply, rather sparsely punctate, the eyes moderate, separated by scarcely their own width in the male and but slightly more in the female, the antennæ slender, filiform, scarcely perceptibly compressed, rather more than one-half as long as the body, the joints strongly obconical, twice as long as wide, the third very short in the male and scarcely one-half as long as the fourth. *Prothorax* short, fully four-fifths wider than

long, strongly but broadly arcuate at apex, thence broadly but more strongly arcuate laterally, the sides becoming feebly divergent and feebly arcuate to the basal angles, which are right and distinctly blunt; base transverse, the sinuations narrow and strong; disk scarcely impressed, coarsely, deeply, sparsely punctate. *Elytra* nearly four times as long as the prothorax, and, in the middle, just visibly wider in the male, quite distinctly wider behind the middle in the female, rather obtusely ogival at apex, the sides very feebly arcuate, becoming nearly straight toward base; disk with rather distinctly impressed series of moderately coarse, deep, punctures, the intervals finely, sparsely punctate. *Abdomen* finely, sparsely punctate. *Legs* slender, the basal joint of the hind tarsi much longer than the remainder. Length 5.7-6.5 mm.; width 2.4-2.8 mm.

#### Iowa.

A somewhat small, broadly depressed species for the present section of the genus, with rather short prothorax, the sides of which are unusually convergent from the base. It is easily recognizable by its longer, more shaggy pubescence, as well as by the antennal structure of the male.

The anterior tarsi of the male have the third joint very rudimentarily lobed, the fourth distinctly so; the intermediate and posterior tarsi having simply the penultimate joint lobed beneath.

12 **H. obscurus** Say.—*Journ. Ac. Phil.*, V, 1827, p. 242.—Oblong-oval, strongly convex, blackish-piceous, the abdomen, legs and antennæ slightly paler, rufo-piceous, polished throughout, the pubescence rather long, coarse, pale, moderately dense and conspicuous. *Head* somewhat coarsely, sparsely punctate, the eyes moderate, separated by about their own width in both sexes; antennæ slender, filiform, two-fifths as long as the body, joints four to eleven equal in length, barely perceptibly obconical, much more than twice as long as wide, the third very short and one-half as long as the fourth in the male, long and fully equal to the fourth in the female. *Prothorax* rather long, but slightly more than one-half wider than long, almost semi-circularly rounded in anterior half, the sides thence feebly divergent (male), or parallel (female) to the base and feebly but distinctly arcuate; basal angles right and slightly blunt; base transverse, the sinuations narrow and strong; disk obsoletely impressed in the middle toward base, and also in the position of the basal foveæ, not very coarsely, deeply, sparsely punctate. *Elytra* scarcely three and one-half times as long as the prothorax, and, toward base, equal in width to the latter, somewhat broader behind the middle in the male, almost parallel in the female, the apex rather abruptly ogival; disk with rather strongly, broadly impressed series of small, rounded, distinct punctures, the intervals rather closely punctate in the female, more sparsely so in the male. *Abdomen* finely, sparsely punctate throughout in both sexes, the metasternum very coarsely, sparsely so externally, gradually finely and more densely so

toward the middle. *Legs* slender; basal joint of the hind tarsi fully one-third longer than the remainder. Length 6.2-7.5 mm.; width 2.7-3.1 mm.

Texas; New York.

The typical form above described is from Texas, the Long Island specimen being quite similar, except that the pronotum is rather more finely punctured and the elytral series not so strongly impressed, tending to disappear laterally toward apex. It is singular that in these species the elytral punctuation of the male is quite distinctly sparser than that of the female, but the antennæ seem to be about equal in length in the two sexes. Still more striking sexual differences in punctuation will be alluded to under *discretus*.<sup>1</sup>

This species is easily separated from the others of this section by the characters given in the table.

13 **H. communis** Lec.—New Spec. Col., 1866, p. 135.—Oblong-oval, rather pale rufo-castaneous throughout, polished, the pubescence moderate in length, coarse, pale, rather sparse. *Head* coarsely, sparsely punctate; eyes moderate, separated by slightly more than their own width; antennæ (male) slender, filiform, two-fifths as long as the body, joints five to eleven equal in length, very slightly obconical, distinctly more than twice as long as wide and each a little shorter than the fourth, the latter about twice as long as the third. *Prothorax* two-thirds wider than long, broadly, strongly arcuate at apex, the sides feebly convergent from the base nearly to the apex and rather strongly evenly arcuate; basal angles scarcely more than right, not distinctly blunt; base transverse, the sinuations broad and rather feeble, disk scarcely impressed, rather coarsely, sparsely punctate, the punctures separated by two to three times their width. *Elytra* equal in width to the prothorax and nearly three and one-half times as long, rather abruptly, obtusely ogival at apex, the sides parallel and nearly straight; disk with distinctly impressed series of rather coarse deep punctures, which extend distinctly to the apex; intervals finely, very sparsely punctate. *Abdomen* finely but strongly, sparsely punctate. *Legs* slender, the basal joint of the hind tarsi much longer than the remainder. Length 5.3 mm.; width 2.2 mm.

North Carolina.

The description is drawn from the male as I have not positively identified the female. In this male type the last joint of the maxillary palpi is rather large and elongate, but almost perfectly rectitriangular, with the outer side subequal to the apex, and the elytral series are distinct to the apex.

This is the smallest species of the present group except *humeralis*, and does not appear to be at all common.

<sup>1</sup> The sparser elytral punctuation of the male is also a common character in *Lobopoda*.

14 **H. discrepans** n. sp.—Elongate-elliptical, rather strongly convex; prothorax rather dull, the elytra polished; body dark piceous-brown in color, the legs scarcely paler, the abdomen and antennæ paler and more rufescent; pubescence rather long, coarse, subrecumbent, pale, sparse and somewhat conspicuous. *Head* coarsely and rather sparsely punctate, polished; eyes large, separated by two-fifths their width; antennæ somewhat slender, not attenuate, two-fifths as long as the body, the joints very feebly obconical, nearly twice as long as wide, the third subequal in length to the fourth but much more slender. *Prothorax* nearly two-thirds wider than long, the apex broadly arcuate, but slightly more than one-half as wide as the base, the latter transverse, with the sinuations very small but distinct; sides broadly rounded and strongly convergent anteriorly, nearly straight and parallel in basal two-fifths, the basal angles right and not at all rounded; disk not noticeably impressed, not very coarsely and extremely densely punctate, the punctures closely crowded and the lustre dull. *Elytra* three and one-half times as long as the prothorax, and, at the middle, but very slightly wider, gradually and acutely ogival in more than apical third; sides feebly arcuate and continuous with those of the prothorax; disk with fine, feebly impressed striæ of rather small but distinct punctures, the intervals finely and sparsely punctured. *Abdomen* finely, sparsely punctate. *Legs* slender, normal. Length 5.5 mm.; width 2.1 mm.

California.

This is quite a distinct species, readily distinguishable by its extremely densely crowded punctuation of the pronotum and correspondingly sparse elytral punctures, also by its large eyes and rather long pubescence. The fifth ventral segment is broadly feebly impressed in the single specimen before me, which is probably a male.

15 **H. grandicollis** Champ.—Biol. Cent.-Amer., Coleopt., IV, Pt. i, p. 429.—Oblong-oval, strongly convex, rather pale piceous-brown throughout, the under surface, legs and antennæ but slightly paler; lustre rather dull and alutaceous; pubescence short, rather fine, pale, moderately dense. *Head* somewhat densely punctured, the eyes in the male large and separated by one-fourth or one-fifth of their width; antennæ rather slender, two-fifths as long as the body, not at all attenuate, joints three to eleven equal in length, somewhat distinctly obconical and rather more than twice as long as wide. *Prothorax* nearly two-thirds wider than long, the apex broadly, strongly arcuate and almost continuous in curvature with the sides, the latter broadly, strongly arcuate, becoming slightly convergent and feebly arcuate toward base, the angles slightly obtuse but not rounded; base transverse, the sinuation at each side of the middle rather narrow but strong; disk not distinctly impressed, finely, very densely punctate and dull, the punctures rounded and deep near their anterior margins, shallow and evanescent posteriorly, the interspaces very minutely and strongly granulato-reticulate. *Elytra* three

times as long as the prothorax<sup>o</sup> and exactly equal in width to the latter, gradually ogival in apical third; sides parallel and nearly straight in basal three-fifths; disk finely, feebly striate, the striæ rather feebly and finely punctate, the intervals dull and alutaceous, finely, feebly, somewhat densely punctate. *Abdomen* finely, somewhat sparsely and evenly punctate throughout. *Legs* slender, the basal joint of the hind tarsi nearly one-third longer than the entire remainder. Length 7.0-7.3 mm.; width 2.8-3.0 mm.

#### Arizona.

A rather large, smooth and dull species, somewhat allied to *porosicornis* and resembling the latter almost perfectly in outline and size, but easily distinguishable by its dull lustre, finer and much denser punctuation and strikingly more elongate basal joint of the hind tarsi, the comparison being made from the males. In the present species the latter sex is the only one before me; the coloration in these two specimens is probably abnormally pale from immaturity.

16 **H. apacheanus** n. sp.—Oblong-oval, rather convex, dark blackish-castaneous above and beneath, the abdomen, legs and antennæ slightly paler and rufescent; lustre dull; pubescence extremely short, dense, pale, subsericeous and moderately conspicuous, recumbent. *Head* dull, finely, very densely punctate anteriorly, more sparsely so between the eyes, which are large and separated by scarcely two-fifths their own width; antennæ stout, just perceptibly attenuate, not quite two-fifths as long as the body, joints strongly obconical, the intermediate nearly twice as long as wide, the third just visibly longer than the fourth. *Prothorax* scarcely one-half wider than long, the apex broadly, strongly arcuate, not quite continuous in curvature with the sides, the latter broadly, strongly arcuate and convergent anteriorly, becoming gradually feebly arcuate and nearly parallel near the basal angles, which are right and very slightly blunt; base transverse, the sinuations small and rather strong, the median lobe subtruncate; disk scarcely at all impressed, rather finely, deeply, excessively densely punctate and dull, the punctures polygonally crowded throughout. *Elytra* a little more than three times as long as the prothorax and about one-fifth wider, rather gradually ogival in apical third; sides thence parallel and almost straight to the humeri, which are oblique externally but not exposed at base; disk with very feebly impressed series of small but rather deep punctures, the intervals finely but strongly, extremely densely punctate. *Abdomen* finely punctate, rather sparsely so except along the middle where the punctures become extremely dense. *Legs* long and slender, the basal joint of the hind tarsi distinctly longer than the remainder. Length 8.0 mm.; width 3.2 mm.

#### Arizona.

I am not quite sure of the sex of the single individual before me, but it appears to be a male. The species is exceedingly distinct in

its large size, unusually short, dense pubescence and excessively dense punctuation, not only of the pronotum, but also the elytra; on the latter the serial punctures are not distinct, being obscured by the crowded punctuation of the intervals.

The fourth joint of the maxillary palpi is normal, moderate in size, recti-triangular, the apex being subequal in length to the outer side.

This can hardly be the female of *grandicollis*, as the dense punctuation along the middle of the abdomen is always a male characteristic when it occurs in the allied *Tenebrionidæ*.

17 **H. exiguus** n. sp.—Oblong-oval, subparallel, rather convex, dark brownish-castaneous; under surface, legs and antennæ paler, more rufous; integuments above rather dull, the pubescence short, very dense, conspicuous. *Head* small, less than one-half as wide as the prothorax; clypeus and interocular surface finely but not densely punctate, polished; eyes large, separated by rather less than one-half their width; antennæ somewhat slender, about two-fifths as long as the body, joints five to ten moderately obconical, fully one-half longer than wide, three and four subequal, nearly cylindrical. *Prothorax* nearly three-fourths wider than long, the apex rather broadly but strongly arcuate, and almost perfectly continuous with the sides, the latter very broadly rounded anteriorly, becoming parallel and nearly straight only in basal third; basal angles scarcely more than right, not noticeably rounded; base transverse, the sinuations narrow but rather strong; disk evenly convex, not impressed, rather finely, extremely densely punctate, the punctures rather shallow, arcuate anteriorly, rapidly shallow and evanescent at their posterior extremities, in mutual contact in a transverse direction, which gives to the punctuation a vague appearance of transverse rugulation under low power. *Elytra* a little more than three times as long as the prothorax, and, throughout basal two-thirds, equal in width to the latter, gradually ogival at apex; sides parallel and barely perceptibly arcuate; disk finely, very densely punctate, with fine, extremely feebly impressed striæ which are just perceptibly punctate. Under surface shining, the abdomen finely, sparsely punctate. *Legs* moderate, the basal joint of the hind tarsi equal in length to the remainder. Length 4.0 mm.; width 1.7 mm.

Texas (El Paso). Mr. Dunn.

A small and inconspicuous species, which is however not closely related to any other here described. It may be known at once by its exceptionally small size and large eyes.

In the unique type the prosternum has been broken away at the sides, exposing the intercoxal process. This, viewed vertically upon its exposed surface, is well known to be longitudinally convex, strongly inflexed behind, arriving at the level of the prosternal side-

pieces at the hind margin. The exposure caused by the removal of the coxa, shows that this process is really a thin hoop, and, that below its surface, the cavities are almost confluent, being separated only by what appears to be a thin hyaline membrane; the inner edge of the hoop is ciliate.

18 **H. helvinus** n. sp.—Oblong-oval, subparallel, rather convex at the sides, flatter above, pale rufo-testaceous throughout, the head and prothorax very slightly darker and more brownish; lustre moderately shining; pubescence short, rather sparse, pale but inconspicuous. *Head* finely, rather densely punctate anteriorly, more sparsely so toward base, the eyes in the male very large and separated by one-fourth of their own width; antennæ long and rather stout, distinctly longer than one-half the body, joints strongly obconical, a little more serrate internally than externally, and fully twice as long as wide, third and fourth subequal in length. *Prothorax* large, two-fifths wider than long, the apex strongly arcuate and continuous in curvature with the sides, the latter broadly, strongly, nearly evenly arcuate throughout, the basal angles slightly obtuse but not rounded; base transverse, strongly sinuate at each side of the middle; disk perfectly even, without impressions, convex, distinctly wider behind the middle than at base, finely, densely punctate, the punctures all distinctly separated. *Elytra* three times as long as the prothorax, and, at the middle, equal in width to the disk of the latter; apex gradually, acutely ogival; sides parallel and very feebly arcuate, the two bases exactly equal; disk with very fine striæ which are generally very feebly impressed, but more distinctly so toward the suture, the punctures of the series fine, approximate and sublinear; intervals nearly flat, finely, rather densely and confusedly punctured. *Abdomen* somewhat coarsely but sparsely punctate, the prosternum densely so. *Legs* moderate in length, the femora robust, the posterior distinctly wider toward apex; tarsi slender, the basal joint of the posterior slightly longer than the remainder. Length 5.8–6.3 mm.; width 2.5 mm.

Texas. National Museum.

The specimens before me are males, and in this sex the last ventral segment is unimpressed, much longer than the fourth and strongly evenly rounded at apex.

This is a comparatively isolated species, readily known by the peculiar form of the prothorax, long antennæ, very large eyes and robust femora, as well as by its peculiar pale ochreous coloration. The prothorax is more than ordinarily deflexed, the longitudinal convexity of the body being therefore apparently greater than usual.

19 **H. porosicornis** n. sp.—Oblong-oval, subparallel, rather strongly convex, piceous-black above and beneath, the legs and antennæ slightly paler, rufescent; surface rather strongly shining, the pronotum finely, feebly

alutaceous; pubescence coarse, short, pale ochreous but sparse and not very conspicuous. *Head* rather large, polished, the epistoma flat, the vertex strongly, abruptly, longitudinally convex and finely, sparsely punctate; eyes large, separated by one-fifth their width in the male and two-fifths in the female; antennæ rather long and slender, two-fifths as long as the body in both sexes, feebly but distinctly attenuate, joints six to ten strongly obconical, the former a little less, the latter a little more than twice as long as wide, third distinctly longer than the fourth. *Prothorax* two-thirds wider than long, the apex broadly, strongly arcuate and continuous in curvature with the sides, the latter broadly, strongly arcuate anteriorly, parallel or very feebly convergent and feebly arcuate from the middle to the basal angles, which are slightly obtuse and very narrowly rounded; base transverse, the sinuation at each side of the middle narrow but strong; disk convex, not distinctly impressed, finely, rather densely punctate, the punctures round and separated by about their own diameters. *Elytra* fully three times as long as the prothorax and equal to the disk of the latter in width, gradually ogival at apex from slightly behind the middle; sides parallel and nearly straight in basal three-fifths; disk with very fine, feebly impressed series of fine but rather deep, close-set punctures, the intervals finely, confusedly and sparsely punctate. *Abdomen* finely, sparsely punctate. *Legs* moderate in length, rather robust, the basal joint of the hind tarsi subequal in length to the remainder. Length 6.4–7.5 mm.; width 2.3–2.8 mm.

Texas (El Paso). Mr. Dunn.

A distinct species, somewhat resembling *rotundicollis*, but much larger, more sparsely punctate and with larger, more approximate eyes which differ sexually.

The remarkable porous system of the antennæ is extremely developed in the present species. The pores are large and uniformly, rather sparsely distributed over the entire surface of the joints four to eleven; they are circular, rather deep, quite independent of the hairs or bristles, and are filled with a peculiar white stellated material, of a spongy-pubescent nature, somewhat similar to the sensitive structure filling the pronotal foveæ in many pselaphides.

This species approaches the genus *Menceceus*, but the thoracic angles are not in the least prolonged posteriorly.

20 **H. intermedius** n. sp.—Oblong-oval, moderately convex, blackish-castaneous, the under surface and antennæ rufo-fuscous; legs paler and more flavate; lustre rather shining, feebly alutaceous; pubescence moderate in length, pale, somewhat dense, very easily removable. *Head* very small, rather coarsely and densely punctate, the eyes large, separated by about one-half their width; antennæ fully two-fifths as long as the body, rather robust, feebly attenuate, the intermediate joints strongly obconical and scarcely more than one-half longer than wide, the third slightly longer than the fourth.



*Prothorax* nearly three-fifths wider than long, the apex strongly arcuate and continuous with the sides, the latter becoming parallel and distinctly arcuate toward base, the basal angles right, not distinctly blunt; base transverse, the sinuations moderate; disk very obsoletely impressed in the middle toward base, finely, deeply punctate, the punctures separated by scarcely their own widths, the interspaces rather strongly alutaceous. *Elytra* fully three times as long as the prothorax and equal in width to the latter, rather abruptly ogival in apical third; disk with feebly impressed series of small but distinct, not very approximate punctures, the intervals minutely and moderately closely punctured. *Abdomen* minutely, very sparsely punctate. *Legs* moderate; basal joint of the hind tarsi almost two-fifths longer than the entire remainder. Length 5.5 mm.; width 2.2 mm.

Texas. Mr. W. Jülich.

The general form of the body recalls *rotundicollis*, but the latter differs in its larger size, much smaller eyes and broader terminal joint of the palpi. In *intermedius* this joint is almost normal, rectitriangular, with the very oblique apex scarcely longer than the outer side. The head seems to be even unusually small.

There is but little variation of any kind in the three specimens before me.

21 **H. prolixus** n. sp.—Elongate, subparallel, moderately convex, alutaceous in lustre and rather dull, piceous to castaneous, the legs, abdomen and antennæ paler and more rufous; pubescence short, rather sparse and inconspicuous. *Head* finely punctate, nearly evenly and rather densely so throughout; eyes large, separated by one-third their width in the male, one-half in the female; antennæ long and slender, nearly one-half as long as the body, the joints strongly obconical and much more than twice as long as wide, the third and fourth equal. *Prothorax* one-half wider than long, the apex and sides nearly as in *occidentalis*; basal angles right and narrowly but very distinctly rounded; base transverse, the sinuations broad and strong, the median lobe broadly arcuate, projecting posteriorly as far as the basal angles; disk scarcely impressed, finely, deeply, densely punctate, usually slightly more sparsely so toward base, the punctures anteriorly generally distinctly, sometimes rather widely separated. *Elytra* fully four times as long as the prothorax and very slightly wider than the latter, rather gradually, obtusely ogival at apex; sides parallel and nearly straight, the humeri somewhat abruptly rounded to the prothorax; disk with very feebly impressed series of fine but deep, close-set, sublinear punctures, the intervals finely, confusedly and rather sparsely punctate. *Abdomen*, under surface and legs nearly as in *occidentalis*. Length 8.5–9.7 mm.; width 2.9–3.2 mm.

New Mexico; Arizona.

This species is somewhat related to *occidentalis*, but differs in several characters to a decisive degree. The punctuation of the

pronotum in *prolixus* is much finer and less dense, and the elytral punctures are decidedly sparser; the antennæ are more slender, with the joints more elongate, the comparisons being made from the male; the base of the prothorax is scarcely at all oblique toward the angles, and finally, the two sexes are similar in size and form, while in *occidentalis* the male is notably more slender than the female and with a less transverse prothorax.

The maxillary palpi are nearly as in *occidentalis*, but the fourth joint is rather narrower. I have seen six specimens.

Mr. Champion writes me that this species is rather closely allied to *durangoensis*, but is distinct.

22 **H. occidentalis** Champ.—Biol. Cent.-Amer., Coleopt., IV, Pt. i, p. 425.—Rather elongate, parallel, moderately convex, dull and alutaceous, castaneous, the legs and under surface rather paler, rufescent; pubescence short, rather fine, moderately dense, not at all conspicuous. *Head* finely, densely punctate anteriorly, more coarsely and slightly more sparsely so between the eyes, which are large, separated by one-third their width in the male and one-half in the female; antennæ about two-fifths as long as the body, subfiliform, moderately stout, the joints about twice as long as wide, third slightly longer than the fourth. *Prothorax* one third (male) to one-half (female) wider than long, the apex broadly, rather feebly arcuate, three-fourths as wide as the base, not continuous in curvature with the sides, the latter parallel and nearly straight in basal half, thence moderately convergent and arcuate to the apex; basal angles right, slightly blunt; base posteriorly oblique toward the basal angles, broadly, feebly arcuate in middle half; disk scarcely impressed, rather coarsely, very densely punctate, the punctures almost in contact but circular and not polygonally crowded. *Elytra* three and one-half times as long as the prothorax and very slightly wider, gradually, obtusely ogival toward apex; sides thence parallel and nearly straight to the humeri, which are obliquely, broadly rounded externally to the prothorax; disk with rather broadly, feebly impressed series of small, close-set punctures, the intervals finely, confusedly and moderately closely punctured. *Abdomen* polished, finely, sparsely punctured, a little more closely so along the middle in the male. *Legs* decidedly robust, the basal joint of the hind tarsi much longer than the remainder. Length 10.0–11.0 mm.; width 3.3–3.8 mm.

Texas.

The fourth joint of the maxillary palpi is strongly dilated, with the apex much longer than either side, and, in outline, is nearly as in *Lobopoda*.

The large size and elongate-parallel form will readily serve to differentiate this species from any other within our faunal limits, being approached in these respects only by *prolixus*.

23 **H. dorsalis** Schz.—Proc. Am. Phil. Soc., XVII, p. 370.—Oblong-oval, rather strongly depressed, dark rufo-ferruginous, the elytra black in apical two-thirds; abdomen, legs and antennæ paler; surface moderately shining, feebly alutaceous; pubescence short, rather fine and sparse, pale but not conspicuous. *Head* rather sparsely, coarsely punctate, the eyes large, somewhat narrowly rounded within, separated in both sexes by one-third to one-fourth their own width; antennæ long, slender, filiform, fully three-fifths as long as the body in the male, joints almost parallel, much more than twice as long as wide, third much shorter than the fourth in the male, subequal in the female. *Prothorax* three-fifths wider than long, the apex strongly arcuate and continuous with the sides, the latter broadly arcuate toward the base, which is transverse, with the sinuations small and feeble; angles right in the male, somewhat obtuse in the female, not rounded; disk widest at about basal third, coarsely and rather sparsely punctate, feebly deplanate toward the basal angles in the female, very obsoletely impressed in the middle toward base. *Elytra* a little more than three times as long as the prothorax and very slightly wider, gradually ogival at apex; sides parallel and almost straight in basal three-fifths, the humeri slightly exposed; disk with feebly impressed series of exceedingly fine, scarcely distinguishable, not very close-set punctures, the intervals finely, sparsely punctate, the punctures not distinctly finer than those of the striæ. *Abdomen* finely but distinctly, rather sparsely punctate. *Legs* slender, the basal joint of the hind tarsi fully one-third longer than the remainder. Length 5.7 mm.; width 2.2–2.3 mm.

Florida (Tampa and Capron). Mr. Schwarz.

A widely isolated species, not only in coloration but in its long filiform male antennæ, large eyes and peculiarly small inconspicuous serial punctures. The male antennæ, with the third joint shorter than the fourth, differ from those of any other species belonging to the present group which I have seen. In the female the antennæ are shorter and stouter.

The fifth segment in the male is much shorter and more obtusely rounded than in the female, and, in both sexes, the lateral subapical emarginations of this segment are unusually strong. The sexual difference in the eyes is not marked; in fact in the single female before me they are, if anything, more narrowly separated than in the male.

The fourth joint of the maxillary palpi is very broad, the apex a little longer than either side, and the angle at the base slightly more than right.

24 **H. discretus** n. sp.—Oblong, subparallel, moderately convex, piceous-black; under surface, legs and antennæ slightly paler, dark rufo-ferruginous, the abdomen distinctly paler toward apex; pronotum alutaceous, the elytra polished; pubescence rather long, semi-erect, somewhat coarse, pale

and sparse. *Head* rather strongly, sparsely punctate, the eyes large, separated by two-fifths their width; antennæ stout, two-fifths as long as the body, feebly attenuate toward apex, joints four to eleven very slightly increasing in length, the sixth joint on the compressed side fully one-half longer than wide, obconical, the tenth twice as long as wide, third and fourth equal in length. *Prothorax* three-fourths wider than long, the apex broadly arcuate and continuous with the sides, the latter broadly, feebly arcuate and convergent anteriorly, more strongly arcuate toward the basal angles, which are slightly obtuse but scarcely noticeably blunt; base transverse, the median lobe small and short, rounded; disk quite distinctly wider at basal third than at base, scarcely at all impressed, broadly explanate laterally toward the basal angles and narrowly, feebly reflexed along the sides in their vicinity, coarsely, strongly punctate throughout, the punctures circular and generally separated by nearly their own diameters. *Elytra* equal in width to the prothorax and about three and one-half times as long, gradually, rather acutely ogival at apex; sides parallel and nearly straight in basal two-thirds; disk with feebly impressed series of rather small but distinct punctures, the intervals finely, rather sparsely, confusedly punctured. *Abdomen* finely but rather strongly, sparsely punctured, almost totally impunctate toward apex; metasternum rather coarsely, sparsely punctate externally, rapidly very finely, densely so toward the middle; prosternum densely punctured. *Legs* rather long, the femora robust; basal joint of the hind tarsi two-fifths longer than the remainder. Length 6.2-7.4 mm.; width 2.4-3.1 mm.

Massachusetts; New York.

The general form throughout recalls that of *fusicornis*, and, as in that species, the antennæ are notably robust, at least in the female, and attenuated, but here the resemblance altogether ceases. In pronotal punctuation the two species stand almost at the extremes of the genus in regard to the magnitude of the punctures, and the basal joint of the hind tarsi is conspicuously longer in *discretus*.

The description is taken from the female. The male is smaller, with entirely polished upper surface, the eyes separated by about one-fourth of their width, and the antennæ more slender and much longer, being a little more than one-half as long as the body. The pubescence, also, seems to be a little longer, and the elytral punctuation is decidedly sparser; the pronotum is not so decidedly explanate toward the basal angles.

In both sexes the fourth joint of the maxillary palpi is rather strongly dilated, triangular, with the apex a little longer than the outer side. The fifth elytral stria is more strongly impressed toward base.

25 **H. convexus** n. sp.—Elliptical, strongly convex, black above, the under surface piceous-black; legs and antennæ throughout dark rufo-ferrugi-

nous; pubescence short, rather coarse, pale but sparse and not very conspicuous. *Head* rather strongly but sparsely punctured between the eyes, the latter large and separated by about one-half their width in both sexes; antennæ long and filiform, one-half as long as the body, the joints extremely feebly obconical, twice as long as wide, the third scarcely perceptibly longer than the fourth. *Prothorax* fully one-half wider than long, the apex distinctly, broadly arcuate, scarcely more than one-half as wide as the base, not continuous in curvature with the sides, the apical angles being very obtuse and rounded; base transverse, the narrow sinuation at each side of the middle rather strong; sides more or less convergent from the basal angles, sometimes parallel in basal half, nearly straight, broadly rounded anteriorly; basal angles right, not rounded; disk very feebly impressed in the middle toward base, coarsely, deeply, moderately densely punctured, the punctures generally very narrowly separated, the interstices feebly alutaceous, the middle toward base and region of the basal foveæ generally more or less impunctate. *Elytra* a little less than three times as long as the prothorax, and, at the middle, scarcely one-fourth wider, the apex gradually acute; sides arcuate and nearly continuous with those of the prothorax; disk coarsely, deeply striate, the striæ coarsely, deeply and approximately punctate, the intervals moderately convex, highly polished, rather finely, sparsely punctured. Under surface finely, sparsely punctate, the prosternum densely so, the propleuræ very sparsely throughout. *Legs* rather long, the basal joint of the hind tarsi slightly longer than the remainder. Length 6.8–7.5 mm.; width 2.8–3.2 mm.

Florida (Key West); Texas. Mr. Jülich.

A remarkably distinct species, apparently inhabiting the same regions as *densus*; in outline somewhat similar to that species but much larger, more shining, more coarsely, sparsely punctate and pubescent, and with very much longer antennæ. The eyes in the ample series before me, do not vary measurably in the interval separating them, which is much less than in *densus*.

26 **H. densus** Lec.—N. Spec. Col., 1866, p. 138.—Elongate-elliptical, rather strongly convex, generally dark rufo-ferruginous, with the elytra, abdomen and antennæ, except toward base, piceous-black; anterior parts generally dull, the elytra more shining; pubescence short, coarse, pale, dense and conspicuous. *Head* moderate, the interocular surface rather coarsely and somewhat sparsely punctured; eyes large and convex, separated in both sexes by about two-thirds their width; antennæ stout, one-third as long as the body, joints four to ten very strongly obconical, slightly longer than wide, more serrate internally than externally, third slender, slightly longer than the fourth. *Prothorax* scarcely one-half wider than long, the apex rather strongly arcuate and continuous in curvature with the sides, the latter becoming less arcuate and very feebly divergent toward the basal angles, which are right and not at all rounded; base transverse, narrowly and rather strongly sinuate on each side of the short truncate median lobe; disk almost unimpressed

throughout, rather coarsely, deeply punctate, the punctures round, perforate and generally very narrowly separated, the interstices dull, a narrow imperfect median line sometimes impunctate toward base. *Elytra* three times as long as the prothorax, and, at the middle, from one-third to one-half wider, gradually, rather acutely ogival at apex, the sides arcuate and continuous with those of the prothorax; disk finely, very densely punctate, with feebly impressed striæ of slightly larger, approximate punctures. Under surface polished, finely, sparsely punctate, the prosternum more densely, coarsely so but not dull. *Legs* moderate, the posterior tarsi rather robust, with the basal joint a little shorter than the remainder. Length 5.0–6.0 mm.; width 2.0–2.4 mm.

Florida; Texas; Ohio.

The color is frequently piceous-black throughout above, the legs always remaining pale. The eyes in sixteen of the seventeen specimens before me are perfectly uniform, and separated by two-thirds of their own width, but in the remaining specimen, which apparently does not differ in any other particular, they are smaller and separated by their full width; this specimen singularly enough is a male, and must be regarded as an accidental aberration.

A few specimens in the cabinet of Mr. Jülich are labeled Ohio, and are said to have been collected by Mr. Dury.

27 *H. ruficollis* Champ.—Biol. Cent.-Amer., Coleopt., IV, Pt. i, p. 438.—Elongate-oval, moderately convex, dull; elytra and abdomen blackish, remainder dark rufo-ferruginous; antennæ and legs concolorous; pubescence rather short and coarse, very dense, pale, and, on the elytra, rather conspicuous. *Head* moderate, rather strongly, very densely punctate and dull; eyes small, separated by distinctly more than their width; antennæ moderately stout, nearly two-fifths as long as the body, intermediate joints nearly one-half longer than wide, third and fourth subequal. *Prothorax* one-half wider than long; apex broadly, distinctly arcuate, about three-fourths as wide as the base, the latter transverse, the sinuations narrow and feeble; sides broadly arcuate, usually more or less parallel from the basal angles and then more strongly rounded into the apex; basal angles right, not rounded; disk not at all impressed, rather strongly, excessively densely punctured and completely dull, the basal foveæ obsolete. *Elytra* three times as long as the prothorax, and, at the middle, nearly one-third wider, rather gradually and acutely ogival at apex; sides feebly arcuate, generally continuous with those of the prothorax; disk finely, rather feebly, very densely punctate, the interstices very minutely, strongly granulato-reticulate and alutaceous, the striæ extremely fine, feebly impressed and very finely, inconspicuously punctured. Under surface punctured nearly as in *punctatissimus*. Posterior tarsi very short, the basal joint much shorter than the remainder. Length 4.7–5.8 mm.; width 2.0–2.2 mm.

Arizona. Mr. Morrison.

A small, densely punctate and unusually dull form, rather closely allied to *densus* and perfectly similar to the latter in the peculiar coloration of the body, but differing in its much finer, still denser punctuation, smaller eyes, and in its decidedly more depressed form.

28 **H. dissensus** n. sp.—Oval, moderately robust, rather convex, castaneous; legs and antennæ pale, flavo-testaceous; lustre somewhat alutaceous, the elytra more strongly shining, pubescence moderate in length and density, pale. *Head* densely, rather finely punctate, the punctures generally in mutual contact; eyes small, separated by nearly one-third more than their own width; antennæ moderately stout, filiform, two-fifths as long as the body, the joints feebly obconical and about one-half longer than wide, third slightly longer than the fourth. *Prothorax* rather elongate, scarcely more than two-fifths wider than long, the apex broadly arcuate and almost continuous with the sides, the latter broadly rounded anteriorly, very feebly arcuate and parallel toward base, the basal angles slightly obtuse and very slightly rounded; base transverse, the sinuations just perceptible; disk evenly convex, rather coarsely, very deeply punctate, the punctures round, separated by rather less than their own widths, the bottom of each highly polished, the interspaces strongly alutaceous and granulato-reticulate. *Elytra* scarcely two and one-half times as long as the prothorax, and, at the middle, but slightly wider; apex somewhat gradually acute; sides broadly arcuate, nearly continuous with those of the prothorax; disk with moderately impressed series of very coarse, deep, perforate and approximate punctures, the intervals nearly flat, from three to four times as wide as the stria punctures, minutely, feebly, confusedly and somewhat closely punctured. *Abdomen* rather sparsely but unusually strongly punctured; anterior parts of the body coarsely so. *Legs* unusually short and robust. Length 4.4–4.8 mm.; width 1.9–2.1 mm.

Texas (Galveston).

A distinct species, easily recognizable by its small size, oval, convex form, coarse punctuation especially of the elytral series, and rather long prothorax. It does not appear to be especially related to any of the Mexican species of the *Biologia*, but belongs near *densus*.

29 **H. seriatus** n. sp.—Oblong-ovate, slightly wider behind, moderately convex, dark piceo-castaneous, the pronotum and elytral suture sometimes feebly rufescent; under surface and legs paler, rufous; pubescence moderate in length, rather coarse and sparse. *Head* moderately convex, rather finely but deeply punctate, the punctures between the eyes separated by about their own diameters, the eyes moderate, separated by very nearly their own width in both sexes; antennæ long, slender and filiform, three-fifths as long as the body, joints four to eleven subequal, feebly obconical, the intermediate rather more than twice as long as wide, the third three times as long as wide and distinctly longer than the fourth. *Prothorax* rather small, two-thirds wider

than long, the apex broadly, rather strongly arcuate, the apical angles broadly rounded, the sides gradually more feebly divergent toward base and becoming nearly parallel in basal third, the angles right, not rounded; base transverse, the sinuations broad and very feeble; disk hardly at all impressed, somewhat coarsely, deeply punctate, the punctures round and generally separated by nearly one-half their own diameters, the interspaces shining. *Elytra* distinctly more than three times as long as the prothorax, and, behind the middle, one-third wider, rather abruptly and obtusely ogival at apex, the sides rather strongly arcuate behind, almost continuous with those of the prothorax, with distinctly impressed series of coarse close-set perforate punctures, the intervals polished, nearly flat, finely and sparsely punctate. *Abdomen* finely, very sparsely but rather strongly punctate, the prosternum densely so, the propleuræ very sparsely. *Legs* slender, the basal joint of the hind tarsi equal in length to the remainder. Length 5.5 mm.; width 2.4–2.6 mm.

#### Arizona.

The peculiar form of this species—distinctly widest behind,—together with the long antennæ and coarsely perforate elytral striæ, will readily serve to distinguish it. It belongs near *densus*, and has the coarse punctuation of the pronotum characterizing that and some allied species, but the form is here rather less convex; it is also allied to the Mexican *pallidus* Champ., but is darker in color, and has the pronotal punctuation less dense and not rugulose.

Five specimens, which are extremely uniform among themselves in size and outline; some are entirely pale testaceous from immaturity.

**30 H. testaceus** n. sp.—Elliptical, rather strongly convex, pale rufotestaceous throughout, strongly shining; pubescence moderate in length, pale but sparse and not conspicuous. *Head* rather coarsely, deeply and sparsely punctate; eyes large, separated by one-half their width in the male and two-thirds in the female; antennæ rather slender and filiform, two-fifths as long as the body, the joints moderately obconical, the intermediate about twice as long as wide, third and fourth equal. *Prothorax* nearly three-fourths wider than long, the apex narrowly, strongly arcuate and continuous with the sides, which are strongly oblique and feebly arcuate anteriorly, more strongly arcuate in basal two-fifths, becoming very feebly convergent toward the basal angles, the latter right and slightly blunt; base transverse, the median lobe small, short, rounded; disk scarcely at all impressed, coarsely, deeply, rather sparsely punctate, the punctures generally separated by nearly their own diameters, the interspaces highly polished. *Elytra* but slightly more than three times as long as the prothorax, and, at the middle, very slightly wider, gradually, rather acutely ogival in apical two-fifths, the sides parallel and feebly arcuate, the two bases exactly equal; disk with fine but distinctly impressed series of fine but deep and distinct punctures, which are noticeably linear, the intervals feebly convex, polished, finely but distinctly, sparsely punctate. *Abdomen*



minutely, feebly, sparsely punctate. *Legs* rather slender, the femora moderately robust; basal joint of the hind tarsi slender, at least one-third longer than the remainder. Length 6.0 mm.; width 2.6–2.8 mm.

Arizona.

This distinct species is somewhat similar to *helvinus* in outline, and in its pale color and rather more than ordinarily deflexed pronotum, which gives it a relatively strong longitudinal convexity. It differs conspicuously from *helvinus* in its very coarse, sparse pronotal punctuation, smaller eyes, much less robust femora and shorter, more slender antennæ. It is represented by four specimens.

31 **H. rotundicollis** n. sp.—Oblong-oval, rather strongly convex, piceous-black throughout, the legs and antennæ but slightly paler, rufescent, rather strongly shining, the pubescence moderately long and dense, very easily denuded. *Head* feebly convex, finely and somewhat densely punctate, the punctures distinctly separated; eyes moderate, separated by about their own width; antennæ moderately stout, filiform, scarcely one-half as long as the body, the joints distinctly obconical, twice as long as wide, the third and fourth equal. *Prothorax* large, three-fifths wider than long, the apex very strongly, rather narrowly arcuate and continuous with the sides, the latter parallel and nearly straight in a little more than basal third; base transverse, the median lobe short, broadly rounded, distinct; basal angles right and slightly blunt; disk feebly explanate near the sides toward base, more especially in the female, not distinctly impressed, rather finely but strongly, somewhat sparsely punctate, the punctures separated by scarcely their own widths, the interspaces strongly shining. *Elytra* rather distinctly more than three times as long as the prothorax, gradually ogival in apical two-fifths; sides parallel and straight in basal three-fifths; disk scarcely equal in width to the prothorax, with feebly impressed series of small but deep, brevilinear, not very close-set punctures, the intervals minutely, confusedly and moderately closely punctured. *Abdomen* finely, very feebly and sparsely punctate. *Legs* rather slender. Length 5.6–6.4 mm.; width 2.1–2.6 mm.

Arizona.

In the four specimens before me there is not one entire posterior tarsus, but the basal joint is slender and appears to be slightly longer than the remainder.

The fourth joint of the maxillary palpi is strongly dilated, as much so as in *Lobopoda*, the angle at the point of support being distinctly obtuse, and the apex much longer than either side and rather widely open and spongiöse throughout its extent.

The strongly arcuate apex of the prothorax, rather sparse punctuation of the pronotum and palpal structure, will readily serve to identify this distinct species. The Central American *emmenasto-*

*ides* is somewhat allied, but differs in its much more oval form and smaller prothorax.

32 **H. inquilinus** n. sp.—Oblong-oval, moderately convex, rufo-testaceous, the elytra still paler and more flavate; upper surface polished, the pronotum feebly alutaceous; pubescence rather sparse, semi-erect, coarse, flavate in color. *Head* decidedly large, strongly, longitudinally convex, minutely, excessively sparsely punctate, the epistoma abruptly flat and more closely but still sparsely punctate; eyes small, separated by distinctly more than their own width; antennæ stout, cylindrical, nearly one-half as long as the body, distinctly attenuate, the joints obconical, third and fourth equal. *Prothorax* short, twice as wide as long, the apex subtruncate, just visibly arcuate, three-fourths as wide as the base, the latter broadly arcuate in the middle, the lobe extending posteriorly fully as far as the angles; sinuations extremely feeble; basal angles right; sides broadly arcuate throughout, a little more convergent anteriorly; disk slightly wider behind the middle than at base, feebly explanate near the sides toward base, not distinctly impressed or foveate, very finely, densely punctate, the punctures distinctly separated. *Elytra* fully three times as long as the prothorax, and, throughout, slightly narrower than the disk of the latter, distinctly dehiscent in apical third, the two bases exactly equal; sides parallel and nearly straight, the apex somewhat obtusely ogival; disk rather finely, moderately closely punctate, without trace of impressed lines except the sutural, which is very feeble, without trace of punctured series except extremely indefinitely toward base. *Abdomen* finely, moderately closely punctate, the fifth segment almost completely impunctate. *Legs* short and very robust, the tarsi short; basal joint of the posterior as long as the remainder. Length 4.5 mm.; width 1.8 mm.

California.

The single specimen before me is a male, and differs so greatly from the usual forms in general appearance, that for a long time I thought that it would have to be considered the type of a distinct genus; but, on close examination, no character of any kind can be discerned by which to distinguish it from *Hymenorus*.

The maxillary palpi are of the usual form, and the lateral subapical emarginations of the fifth ventral segment are deep and distinct. The claws are rather short and stout and finely, closely pectinate nearly throughout the length. This species is said to be myrmecophilous.

33 **H. fusicornis** n. sp.—Oblong, parallel, rather robust and feebly convex, piceous above, the elytra black; under surface and antennæ dark piceo-castaneous, the legs paler and more flavate; lustre rather shining, the pubescence somewhat dark, fine and sparse, rather long, subrecumbent. *Head* rather large and convex, the epistoma abruptly flat, very finely, sparsely punctate throughout; eyes moderate, separated by their own width; antennæ

exceedingly robust, compressed, rapidly and finely attenuate toward apex, two-fifths as long as the body, joints four to eleven gradually increasing in length, six and seven on the compressed side but very slightly longer than wide, the tenth three-fourths longer than wide, the third quite distinctly longer than the fourth. *Prothorax* three-fourths wider than long, the apex broadly, moderately arcuate, three-fourths as wide as the base, the latter broadly, strongly arcuate or feebly lobed in the middle, transverse toward the basal angles, which are slightly obtuse but not distinctly rounded; sides broadly, evenly arcuate throughout; disk slightly widest at basal third, very feebly impressed in the middle near the base, very finely and rather sparsely punctate. *Elytra* but little more than three times as long as the prothorax and equal in width to the disk of the latter, rather abruptly but acutely ogival in apical third; sides parallel and straight; disk with very feebly impressed series of unusually fine and feeble punctures, the intervals still more minutely and sparsely punctate. *Abdomen* finely and unusually densely punctate, the apices of the segments narrowly impunctate, metasternum a little more coarsely and sparsely so. *Legs* moderate, normal, the basal joint of the hind tarsi but slightly longer than the remainder. Length 6.8 mm.; width 2.8 mm.

California (southern).

A remarkably isolated species, to be readily identified by its smooth, rather shining, minutely, sparsely punctate surface and robust, compressed and rapidly finely attenuate antennæ; the pronotum is unusually deplanate along the base to the basal angles, but strongly declivous thence anteriorly along the sides.

I have seen but a single specimen which is a female. The so-called sixth segment is about one-fifth as wide as the fifth, truncate at apex, with the angles rounded.

This species appears to approach the genus *Mencœceus*, but the posterior angles of the prothorax do not exhibit the slightest tendency to prolongation backward.

**34 H. nitidipennis** n. sp.—Oblong-elongate, parallel, subdepressed, dark piceo-castaneous above, the under surface, legs and antennæ pale rufotestaceous; elytral suture narrowly rufescent; prothorax rather dull, the elytra strongly shining; pubescence very short, rather sparse, inconspicuous. *Head* rather coarsely punctate, sparsely so between the eyes, the latter moderate in size, separated by nearly three-fourths of their width; antennæ long, somewhat stout, fully one-half as long as the body, the joints gradually narrower and shorter toward apex, the intermediate extremely feebly obconical and distinctly more than twice as long as wide, the third and fourth equal. *Prothorax* a little more than one-half wider than long, the apex rather strongly arcuate and continuous with the sides, which are broadly arcuate anteriorly, becoming nearly parallel and straight only very near the base, the basal angles right, not rounded; base transverse, the sinuations rather broad, moderately

distinct; disk scarcely impressed, somewhat coarsely, very densely punctate, the punctures circular and almost absolutely in contact, but not polygonally crowded. *Elytra* three and one-half times as long as the prothorax and about one-fifth wider, rather obtusely ogival in apical third, the humeri very slightly rounded to the base of the prothorax; sides parallel and nearly straight in basal two-thirds; disk with rather deeply impressed striæ of somewhat coarse, close-set, almost perforate punctures, the intervals somewhat convex, very minutely, rather sparsely punctured. *Abdomen* finely, sparsely punctate. *Legs* slender, the basal joint of the hind tarsi distinctly longer than the remainder. Length 6.8 mm.; width 2.3 mm.

Arizona.

This species is not at all closely related to any other, the strongly shining, deeply striate, minutely punctate elytra, coarsely, densely punctate pronotum, long antennæ and oblong, subdepressed form, at once distinguishing it.

35 *H. inæqualis* n. sp.—Oblong, parallel, strongly convex, the elytra polished, dark piceo-castaneous, the under surface, legs and antennæ paler, rufescent; pubescence rather long, more than usually erect, not very dense. *Head* coarsely, sparsely punctate between the eyes, more finely, densely so anteriorly; eyes moderate, separated by four-fifths of their width; antennæ rather stout, gradually, distinctly attenuate, fully two-fifths as long as the body, joints five to eleven gradually decreasing in width and just visibly increasing in length, the former two-thirds longer than wide, strongly obconical, the tenth much more than twice as long as wide, third very distinctly longer than the fourth. *Prothorax* short, three-fourths wider than long, the apex two-thirds as wide as the base, almost transversely truncate, the base transverse, the median portion broadly, distinctly arcuate; sides broadly arcuate and strongly convergent anteriorly, very slightly convergent and nearly straight in basal two-fifths, the angles rather distinctly obtuse but not at all rounded; disk not impressed, convex, very coarsely, extremely densely and not very deeply punctate, the punctures in contact and somewhat polygonally crowded. *Elytra* nearly four times as long as the prothorax and just perceptibly wider, the apex gradually, evenly ogival, the humeri feebly, obliquely rounded externally to the prothoracic base, the sides parallel and nearly straight; disk with extremely feebly impressed series of small but deep, close-set and almost perforate punctures, which are slightly oblong; intervals highly polished, minutely, sparsely punctate. *Abdomen* minutely, sparsely punctate, the anterior portions of the body coarsely so, the prosternum and propleuræ extremely densely so. *Legs* moderate in length, rather densely pubescent, the femora slightly robust; basal joint of the hind tarsi subequal in length to the remainder. Length 7.0 mm.; width 2.8 mm.

Arizona.

A distinct and comparatively isolated species, distinguishable by its oblong, unusually convex form, very coarse, dense pronotal and

minute, sparse elytral punctuation and rather long, unusually erect and fulvous pubescence, the latter being quite conspicuous although rather sparse on the elytra. The unique type is a female.

36 **H. tenellus** n. sp.—Slender, subparallel, rather convex, dark rufotestaceous throughout, the abdomen becoming slightly piceous toward the sides and apex; anterior parts rather dull, the elytra shining; pubescence short, coarse, pale fulvous, moderately dense and distinct. *Head* rather coarsely, very densely punctate and dull, the eyes rather large, separated by about three-fourths their width; antennæ somewhat slender, two-fifths as long as the body, the joints feebly obconical and about three-fourths longer than wide, third slightly longer than the fourth. *Prothorax* one-half wider than long, the apex broadly arcuate; base transverse, the sinuations rather wide and distinct, the median lobe rounded; sides parallel and nearly straight in basal half, then broadly rounded to the apex; basal angles slightly obtuse but scarcely at all rounded; disk broadly, very feebly impressed in the middle toward base, rather coarsely, deeply punctate, the punctures distinctly separated toward the middle, rather finer and densely crowded toward the sides. *Elytra* nearly three times as long as the prothorax, and, throughout, scarcely perceptibly wider, the sides parallel and straight to apical third, the apex ogival; disk finely, rather sparsely punctured, with series of very fine inconspicuous punctures, the series rather distinctly impressed near the suture but becoming almost completely unimpressed laterally. Under surface very finely, sparsely punctured, the prosternum and propleuræ finely, extremely densely so but not dull. Length 4.8–5.0 mm.; width 1.8 mm.

Florida (Crescent City). Mr. Schwarz.

A small subparallel species, somewhat related to *densus*, but differing greatly in form, structure of the antennæ, coloration and elytral punctuation. I have seen three specimens, which do not display any variation sexual or otherwise.

37 **H. sobrinus** n. sp.—Oblong-oval, convex, shining, black throughout above and beneath; legs black, the femora slightly rufescent toward base; antennæ fuscous; pubescence moderately long, not extremely dense and not very conspicuous. *Head* between the eyes rather coarsely, deeply punctate, the punctures slightly separated; eyes moderate, separated by fully their own width; antennæ rather slender, two-fifths as long as the body, the intermediate joints very feebly obconical and nearly twice as long as wide, third and fourth mutually similar, slender, cylindrical, the former slightly the longer. *Prothorax* short, fully four-fifths wider than long, the apex broadly, feebly arcuate, two-thirds as wide as the base, the latter transverse, with the sinuations broad and feeble but distinct; basal angles slightly obtuse but not distinctly blunt; sides parallel and feebly arcuate in basal half, then convergent and scarcely more strongly arcuate to the apex; disk rather strongly punctate, the punctures all slightly separated, the interstices polished; basal foveæ very feeble. *Elytra* rather more than three times as long as the prothorax and nearly one-

fourth wider, sides parallel and nearly straight in basal two-thirds, the apex broadly ogival; humeri narrowly rounded to the base of the prothorax; disk finely, sparsely punctate, with rather coarsely impressed series of punctures, which are small and inconspicuous when viewed by lateral light, but rather coarse by light reflected along the striæ from the front. Under surface polished, minutely, sparsely punctate, the prosternum very densely so but not dull. *Legs* moderate. Length 4.8 mm.; width 2.0 mm.

Florida.

This species belongs somewhat near *tenellus*, but differs greatly in coloration, in its broader form, and especially in its wider elytra and more transverse prothorax; the eyes in the unique female are decidedly smaller, and the antennæ still more slender.

38 **H. floridanus** n. sp.—Oblong-oval, rather strongly convex, dark piceous-brown throughout, the legs and antennæ throughout pale rufo-ferruginous; pubescence short, rather fine, sparse, pale but not very conspicuous. *Head* rather short, strongly and rather densely punctured between the eyes, the latter moderately large, separated by about four-fifths of their own width; antennæ slender, two-fifths as long as the body, the joints nearly parallel, each distinctly more than twice as long as wide, the third a little longer than the fourth. *Prothorax* rather short, three-fourths wider than long, the apex broadly arcuate, three-fourths as wide as the base, the latter broadly feebly sinuate at each side of the middle; sides feebly convergent and broadly arcuate from the basal angles, the latter right, not rounded; disk just visibly and broadly impressed or flattened in the middle, rather coarsely, very densely punctate, the punctures narrowly separated; interspaces rather shining. *Elytra* a little more than three times as long as the prothorax and nearly one-third wider; sides parallel and nearly straight; apex abruptly, obtusely ogival; humeri rather abruptly rounded to the base of the prothorax; disk somewhat coarsely, deeply striate, the striæ coarsely, rather closely punctate, the intervals finely but very distinctly, moderately closely punctured. Under surface finely, sparsely punctate, the prosternum very densely so, the propleuræ rather densely so and more coarsely rugulose. *Legs* moderate; basal joint of the hind tarsi quite distinctly longer than the remainder. Length 5.5–6.2 mm.; width 2.4–2.8 mm.

Florida. National Museum.

Rather closely allied to *sobrinus*, but differing in its paler coloration, larger size, slightly larger eyes, rather longer and more slender antennæ and more robust form. The prothorax is longer and the sides are much more convergent from the basal angles than in *sobrinus*; it is represented by two specimens.

39 **H. confertus** Lec.—N. Spec. Col., 1866, p. 136.—Oblong-oval, moderately robust, rather strongly convex, dark brown throughout, the legs slightly

paler and more ferruginous; integuments feebly shining, the pubescence short, dense, moderately conspicuous. *Head* small, finely, densely punctate, the eyes rather large, separated by two-thirds of their own width in the male; antennæ rather stout, a little more than one-third as long as the body, the joints moderately obconical, nearly one-half longer than wide, the third but slightly longer than the fourth. *Prothorax* nearly two-thirds wider than long, the apex broadly, rather strongly arcuate and almost continuous with the sides, the latter parallel and straight in basal half, then broadly, evenly rounded to the apex; base transverse, the sinuations rather distinct; angles right, not at all rounded; disk scarcely impressed, rather finely and extremely densely punctured throughout. *Elytra* three times as long as the prothorax and about one-fourth wider, rather abruptly ogival behind; sides in basal two-thirds parallel and nearly straight, the humeri rather abruptly but narrowly rounded to the base of the prothorax; disk with feebly impressed series of moderately coarse, close-set punctures, the intervals nearly flat, the punctures dense but not extremely so. *Abdomen* finely, rather sparsely punctured, the metasternum rather coarsely and unusually densely so, the prosternum extremely densely so. *Legs* slender, the basal joint of the hind tarsi distinctly shorter than the remainder. Length 5.3–6.0 mm.; width 2.1–2.4 mm.

Lower California (Cape San Lucas). Cab. LeConte.

In its oblong form, with the elytra rather short, parallel and slightly wider than the prothorax, this species is an analogue of *sobrinus* and *floridanus*, but it differs from both of the latter in its finer, much denser punctuation, more elongate prothorax and slightly shorter, more robust antennæ.

40 **H. fuscus** n. sp.—Oblong, rather elongate and convex, dark brownish-piceous, the under surface and legs slightly paler, rufescent; integuments feebly shining, the pubescence very short, pale, dense and conspicuous. *Head* finely, densely punctate, the punctures rather distinctly separated between the eyes, the latter somewhat large, separated by fully three-fourths their width; antennæ rather more than one-third as long as the body, somewhat slender, the joints feebly obconical, nearly two-thirds longer than wide, the third slender, much longer than the fourth. *Prothorax* one-half wider than long; apex feebly arcuate, two-thirds as wide as the base, not at all continuous with the sides, the apical angles being distinctly evident although very obtuse; base transverse, the sinuations small and very feeble; basal angles a little more than right, not rounded; sides broadly arcuate and convergent anteriorly, feebly arcuate toward base; disk just visibly wider behind the middle than at base, scarcely at all impressed, rather finely, extremely densely punctate. *Elytra* fully three times as long as the prothorax and scarcely more than one-fifth wider; apex evenly ogival; humeri abruptly rounded to the base of the prothorax; sides parallel and nearly straight in basal two-thirds; disk with fine, feebly, but distinctly impressed series of rather approximate punctures, which are very fine externally but somewhat strong near the suture, the intervals finely, very densely, confusedly punctate. *Abdomen*

finely, sparsely punctate, otherwise nearly as in *confertus*, the metasternum a little more sparsely punctate. *Legs* slender; basal joint of the hind tarsi distinctly longer than the remainder. Length 5.8–6.6 mm.; width 2.3–2.6 mm.

California (Coronado Beach, San Diego Co.). Dr. Blaisdell.

This species is allied to *confertus*, but differs in its larger size, more elongate form, more slender antennæ and longer basal joint of the hind tarsi. The prothorax, especially, is longer and with the apex more transverse. I have not positively identified the sexes in the two individuals before me, but it is probable that the sexual difference in the eyes is not marked.

41 **H. macer** n. sp.—Oblong-oval, somewhat convex, rather shining, pale rufo-testaceous, sometimes slightly brownish, the legs more flavate; pubescence very short, dense, pale, moderately conspicuous. *Head* feebly convex, the interocular surface finely, rather sparsely punctate in the male, the eyes in that sex moderately large, separated by fully three-fourths of their width; antennæ stout, distinctly more than one-third as long as the body, very feebly attenuate, the intermediate joints short, scarcely one-fourth longer than wide, strongly obconical, the third more slender and scarcely perceptibly longer than the fourth. *Prothorax* about one-half wider than long, the apex two-thirds as wide as the base, feebly arcuate; sides broadly arcuate and convergent anteriorly, nearly parallel and very feebly arcuate toward base, the angles slightly obtuse; base transverse, the sinuations small and feeble; disk broadly, just visibly impressed in the middle toward base, rather finely, extremely densely punctate, the punctures in contact and sometimes slightly rugulose, the lustre however rather shining. *Elytra* fully three times as long as the prothorax and just visibly wider, the apex gradually ogival, the humeri narrowly exposed, rounded; sides parallel and almost straight in basal two-thirds; disk with very fine, feebly impressed striæ of fine, inconspicuous punctures, the intervals rather strongly shining, nearly flat, finely, extremely densely, confusedly punctate. Under surface finely, sparsely punctate, the prosternum and its side-pieces very densely so. *Legs* rather slender, the basal joint of the hind tarsi nearly as long as the remainder. Length 5.0–5.8 mm.; width 2.0–2.2 mm.

California (Poway, San Diego Co.; Folsom).

A rather inconspicuous, unusually pale species, somewhat distantly related to *deplanatus* and distinguishable by its much more convex form and slightly longer prothorax.

In *deplanatus* the punctures of the pronotum are small, circular and distinctly separated, while in the present species they are quite peculiar, giving under small magnifying power, the rugulose appearance mentioned in the description. The punctures in *macer* are much larger than in *deplanatus*, slightly elongate, closely crowded



and polygonal, much shallower and gradually evanescent toward their posterior extremities, with the bottom polished, the hair borne from a minute tuberculiform puncture adjoining the anterior margin of each.

Five specimens, two of which were sent me by Dr. Blaisdell, of San Diego.

42 **H. indutus** n. sp.—Oblong-elongate, parallel, rather strongly convex, dull, piceous in color, the legs and antennæ slightly paler and more ferruginous; pubescence short, extremely dense. *Head* feebly convex, the punctures between the eyes moderately fine and distinctly separated; eyes moderate, separated by a little more than three-fourths of their width; antennæ rather stout, not perceptibly attenuate, somewhat long, about two-fifths as long as the body, the intermediate joints strongly obconical, about one-third longer than wide, the third cylindrical and just visibly longer than the fourth. *Prothorax* slightly more than one-third wider than long, the apex broadly arcuate, nearly three-fourths as wide as the base, the latter transverse, the sinuations narrow but distinct; sides broadly rounded anteriorly, becoming nearly straight and parallel in basal half, the angles right, not at all rounded; disk convex, finely, deeply, very densely punctured, the punctures round and slightly separated toward the middle. *Elytra* three times as long as the prothorax and very slightly wider, rather obtusely ogival at apex, the humeri slightly rounded to the base of the prothorax; sides parallel and nearly straight in basal two-thirds; disk finely, extremely feebly striate, the striæ finely and inconspicuously punctured; intervals very finely and excessively densely punctate. *Abdomen* polished, minutely, rather sparsely punctured; prosternum and propleuræ rather coarsely, extremely densely so. *Legs* moderate, the basal joint of the hind tarsi slightly shorter than the remainder. Length 5.0–7.0 mm.; width 1.9–2.5 mm.

Texas (El Paso); New Mexico; Arizona.

The large amount of material before me is rather heterogeneous and apparently involves two or three very closely allied species. Some of the smallest forms are females, and two are labeled "Florida," but this is probably an erroneous locality.

The typical form is from El Paso, and has the punctuation of the pronotum as described above and the pubescence rather dark in color. Other specimens have the punctuation of this part slightly coarser, densely crowded, polygonal and more rugulose, the pubescence being a little longer, pale ochreous and much more conspicuous.

All the specimens agree, however, in the extremely dense punctuation of the elytra, which noticeably exceeds that of *deplanatus*, and is even apparently denser than in *macer*. The species is allied to

*macer*, but differs in its more elongate form, especially longer prothorax, larger size and darker color.

In some specimens, especially those with paler pubescence, there is scarcely a trace of the serial punctures.

43 **H. punctatissimus** Lec.—New Spec. Col., 1866, p. 138.—Oblong-oval, subparallel, somewhat depressed, pale brown and dull above, paler rufotestaceous and polished beneath; legs and antennæ still paler, more flavate; pubescence extremely dense, short. *Head* feebly convex, rather finely, densely punctate, the punctures distinctly separated between the eyes, the latter moderately large, separated by three-fourths their width; antennæ stout, rather more than one-third as long as the body, the joints beyond the third just visibly longer than wide, strongly obconical, the third a little longer than the fourth. *Prothorax* one-half to two-thirds wider than long, the apex about two-thirds as wide as the base, more or less distinctly arcuate; base transverse, the sinuations almost obsolete; basal angles very slightly obtuse, not at all rounded; sides broadly rounded and convergent anteriorly, almost parallel and more nearly straight toward base; disk excessively finely, densely punctate and dull. *Elytra* about three times as long as the prothorax, and, at the middle, quite distinctly wider; humeri not exposed at base; apex rather acutely ogival; sides nearly straight in basal two-thirds; disk excessively densely, finely punctured, with fine, feebly impressed rows of slightly larger feeble and scarcely distinguishable punctures. *Abdomen* polished, finely, rather sparsely punctured, the metasternum somewhat coarsely and densely so, the prosternum and propleuræ extremely densely so and dull. *Legs* moderate in length, the basal joint of the hind tarsi as long as the remainder. Length 4.5–5.3 mm.; width 1.8–2.2 mm.

Arizona.

The fourth joint of the maxillary palpi is rather short and robust, the apex intermediate in length between the inner and outer sides.

A small species easily known by its excessively dense punctuation and pubescence, the latter being also very short and coarse.

44 **H. deplanatus** Champ.—Biol. Cent.-Amer., Coleopt., IV, Pt. i, p. 440.—Oblong, subparallel, rather strongly depressed, feebly shining, piceous-brown, the legs and antennæ slightly paler; pubescence coarse, very short, moderately dense. *Head* small, feebly convex, the punctures distinct, very sparse between the eyes, the latter somewhat large, separated by about two-thirds their width; antennæ stout, rather more than one-third as long as the body, the joints very strongly obconical, the intermediate nearly one-half longer than wide, third distinctly longer than the fourth. *Prothorax* fully one-half wider than long, the apex strongly arcuate and continuous in curvature with the sides, the latter becoming nearly straight and parallel in basal half; basal angles right, not rounded; base transverse, the sinuations narrow, somewhat distinct; disk rather finely, densely punctate, alutaceous, the punctures

not polygonally crowded; basal foveæ almost obsolete. *Elytra* rather more than three times as long as the prothorax, and, behind the middle, about one-third wider, somewhat abruptly and obtusely rounded behind; sides just visibly arcuate; disk rather distinctly shining, not very finely, deeply, densely punctate and with distinctly impressed series of slightly coarser, very approximate punctures. *Abdomen* very minutely, sparsely punctate, the prosternum rather densely so but strongly shining. Length 4.8–5.0 mm.; width 1.9 mm.

Arizona. Mr. Morrison.

This is a small species, somewhat allied to *punctatissimus*, but easily distinguishable by its sparser punctuation especially of the elytra, and the more distinctly punctate elytral striæ, also by its still more depressed form.

The two specimens before me appear to be females, as there is no trace of the peculiar sexual modification of the tibiæ mentioned by Mr. Champion.

45 **H. gemellus** n. sp.—Oblong-elongate, somewhat strongly depressed, parallel, dark brownish-piceous, the abdomen blackish, remainder of under surface, legs and antennæ paler, rufescent; integuments somewhat shining, the pubescence short, moderately dense. *Head* deeply punctured, the punctures rather small and well separated between the eyes, finer and denser anteriorly; eyes moderately large, separated by about two-thirds their width; antennæ moderately long and slightly stout, joints strongly obconical, nearly one-half longer than wide, third just visibly longer than the fourth. *Prothorax* rather more than one-half wider than long, the apex broadly, feebly arcuate, three-fourths as wide as the base, not continuous in curvature with the sides, the latter broadly arcuate anteriorly, parallel and nearly straight in basal half, the angles right; base transverse, the sinuations rather broad and distinct; disk not impressed, finely, extremely densely punctate throughout, the punctures round, not quite in contact, the very narrow interspaces shining. *Elytra* quite distinctly more than three times as long as the prothorax and just visibly wider, somewhat abruptly and obtusely ogival at apex, the humeri very narrowly exposed; sides parallel and nearly straight; disk somewhat finely and feebly striate, the striæ finely but distinctly, closely punctate; intervals finely, confusedly and moderately densely punctate, polished. *Abdomen* finely, very sparsely punctate. *Legs* normal, the basal joint of the hind tarsi equal in length to the remainder. Length 6.0–6.3 mm.; width 2.2–2.3 mm.

Arizona.

A somewhat inconspicuous species, more or less allied to several others but especially *deplanatus*. From the latter it is readily separable by its finer and rather sparser elytral punctuation and much larger size. The three specimens before me were formerly a part of the Levette cabinet.

46 **H. uniseriatus** n. sp.—Oblong-oval, rather narrow, convex, highly polished and pale flavo-testaceous throughout; pubescence somewhat long and semi-erect, coarse, pale and sparse. *Head* distinctly, evenly convex, coarsely, deeply, rather sparsely punctate; eyes small, separated by one-half more than their own width; antennæ moderately stout, a little less than one-half as long as the body, the joints rather strongly obconical and scarcely one-half longer than wide, the third scarcely as long as the fourth in the female. *Prothorax* about one-half wider than long, the apex three-fourths as wide as the base, feebly arcuate; sides parallel and almost straight in basal two-thirds, the apical angles broadly rounded; base transverse, the sinuations broad and rather distinct; basal angles right, distinctly, narrowly rounded; disk broadly, feebly impressed in the middle toward base, coarsely, rather sparsely punctate, the basal foveæ small but quite distinct. *Elytra* nearly four times as long as the prothorax and about one-half wider; sides parallel, broadly arcuate behind, the apex ogival; humeri rounded, rather broadly exposed; disk with series of rather coarse, deep, moderately approximate punctures, the series scarcely at all impressed except very feebly toward the suture; intervals each with a single even series of very fine punctures. *Abdomen* finely, sparsely punctate, the prosternum very densely so. *Legs* moderate, slender; basal joint of the hind tarsi slightly longer than the remainder. Length 5.0 mm.; width 1.9 mm.

#### California.

The unique specimen is a female and it is possible that in the male, the third antennal joint will prove to be quite distinctly shorter than the fourth.

This species is decidedly aberrant in the form of the prothorax, which is more subquadrate, in the smaller eyes and especially in the arrangement of the elytral punctures. I am however unable to perceive any structural characters, which would warrant its removal from the present genus. The maxillary palpi are of a common form, the fourth joint being almost evenly recti-triangular, with the oblique apex about equal in length to the outer side.

#### MENCECEUS Champ.

Assuming *M. crassicornis* Champ. as the type of this genus, its characters may be briefly stated as follows:—

Body oval, rather broad and moderately convex, the sides of the elytra continuous in curvature with those of the prothorax, the basal angles of the latter acute and slightly produced posteriorly. Head small, short, deeply inserted, vertical in repose, the fourth joint of the maxillary palpi very broad, the apex nearly one-half longer than the outer side; terminal joint of the labial short and robust. Antennæ stout, the intermediate joints dilated in

the male. Prosternal process horizontal, tumid posteriorly, then abruptly vertical and excavated to the level of the prosternal side-pieces. Legs and tarsi throughout as in *Hymenorus*.

The general form of the body approaches some of the species of *Cistela* or *Isomira*, but apart from the characters above mentioned the genus is very closely related to *Hymenorus*. Some of the species of the latter genus such as *inquilinus*, *fusicornis* and *porosicornis* are more or less allied to *Menœceus*, but the form is narrower, the prothorax less transverse, and the basal angles not posteriorly produced. This last feature constitutes really the only important difference between *Menœceus* and *Hymenorus*.

One species, which however differs from the typical form in having the prosternal process and antennæ as in *Hymenorus*, is described in the *Biologia* by Mr. Champion from southern Texas; I have seen no representative of it, but the original description is as follows:—

**M. texanus.**—"Ovate, rather broad, piceous-brown, dull, thickly pubescent. Head sparsely and rather coarsely punctured; eyes ( $\delta$ ) very large, narrowly separated; antennæ ( $\delta$ ) stout, rather short, ferruginous; prothorax very broad, the disk obsoletely canaliculate behind, the surface closely (but not densely), finely, and shallowly punctured; elytra finely punctate-striate, the interstices quite flat and finely and rather closely punctured; legs ferruginous; the lateral lobes of the last ventral segment broad and spoon-shaped and clothed with long hairs at the apex." Length  $7\frac{1}{4}$  mm.; width  $3\frac{1}{2}$  mm.

This species is stated to be much broader than *M. crassicornis*, with the pronotum more finely and sparsely punctured.

#### **TELESICLES** Champ.

This genus is very closely related to *Hymenorus*, the characters throughout being similar, with the exception of the form of the prothorax, the apex being transversely truncate and the sides convergent toward base and feebly sinuate; this form is however so radically different from anything known in *Hymenorus*, as to give quite a distinct and peculiar habitus to the species of *Telesicles*, and there can be but little doubt that the genus is a really valid one. It is simply a good illustration of the statement made in the introductory remarks to the present family, that generic differences often depend more upon general facies or appearance than upon any decided modification of special organs.

Our single species is as follows:—

**T. cordatus** Champ.—Biol. Cent.-Amer., Coleopt., IV, Pt. i, Nov. 1888, p. 451.—Oblong, rather depressed, polished and pale ochreous-testaceous throughout; pubescence rather short, semi-erect, coarse and sparse. *Head* feebly convex, rather strongly, not very densely punctate; eyes small, separated by nearly one-half more than their own width; antennæ slender, filiform, nearly one-half as long as the body, intermediate joints feebly obconical, about twice as long as wide, the third and fourth equal. *Prothorax* one-half wider than long, the apex transversely truncate, four-fifths as wide as the base, the latter transverse or just visibly, evenly arcuate throughout, the sinuations obsolete; sides broadly arcuate, convergent in basal third and becoming strongly sinuate just before the basal angles, the latter right, somewhat prominent, not at all blunt; disk evenly convex, not impressed, rather coarsely and sparsely punctate; basal foveæ broadly impressed and almost obsolete. *Elytra* about three times as long as the prothorax and one-fourth wider than the disk of the latter, abruptly, acutely ogival at apex; sides parallel and nearly straight; humeri narrowly rounded and quite broadly exposed at base; disk with extremely feebly impressed series of rather coarse deep punctures, which become much less distinct near the apex; intervals flat, finely, confusedly and very sparsely punctate. *Abdomen* finely but distinctly, sparsely punctate. *Legs* rather short, slender, the basal joint of the hind tarsi nearly as long as the remainder. Length 5.5–5.8 mm.; width 2.0–2.1 mm.

Texas (El Paso). Mr. Dunn.

There seems to be very little sexual difference, the eyes being just visibly less distant in the male, and the fifth segment a little more acutely rounded behind in that sex.

#### MYCETOCHARA<sup>1</sup> Berth.

Several attempts have been made to subdivide this genus but all more or less unsuccessfully, for, although easily divisible into groups by certain comparatively constant prosternal characters, it is found that each group contains species which, in general habitus, are strongly suggestive of homologous species in some of the others.

<sup>1</sup> The correct designation of this genus is involved in considerable uncertainty, and for this reason I at first determined to make use of the name given in the Munich Catalogue, quite forgetting the familiar fact that *Mycetophila* had been used by Meigen in 1803 for a genus of Diptera. The word here adopted is that proposed by Seidlitz in the most recent edition of the "Fauna Baltica," and is considered by that author to be two years earlier than *Mycetochares* Latr., the former having been printed in 1827, while the latter was not published in a properly latinized form until 1829.

In other words each group is so heterogeneous, and the interosculating lines of affinity between them so numerous, that it seems impossible to consider them as having full generic value.

The form and extent of the anterior coxæ and of the prosternal process which separates them, constitute the best characters for minor subdivisions, for these appear to be the most constant within the limits of the groups.

The fourth joint of the maxillary palpi is usually in the form of a right-angled triangle, with the right angle at the point of attachment, but sometimes the two sides form an angle which is slightly less than right, the apex becoming shorter; it is generally quite robust, but occasionally becomes decidedly slender. The eyes, tarsi and antennæ vary greatly in size and form in the various species, and appear to be but slightly affected by sex.

The sexual differences are stated to be quite pronounced in many of the European species, but in the North American they are certainly not remarkably so, and, as there is often much difficulty in determining the sex of individuals, but little attention has been given to this subject in the following descriptions.

The punctuation generally varies to a considerable degree, and sometimes appears to be coarse or rather fine in the same individual according to the direction of the reflected light; the elytra often have to be held, therefore, in a very oblique position with reference to the light, in order to see that the impressed lines, which are nearly always distinct, are not accompanied by series of punctures in such species as *fraterna* and *nigerrima*.

Our species may readily be separated into three groups as follows:

- Anterior coxæ rather small, separated by a comparatively wide prosternal process, the latter longitudinally convex and attaining the level of their apices.....**I**
- Anterior coxæ separated by a thin prosternal lamina.
  - The coxæ very large, conoidal and prominent, almost contiguous at apex, the prosternal lamina deeply placed between them, and generally more or less horizontal.....**II**
  - The coxæ rather small, the lamina longitudinally convex and attaining the level of their apices.....**III**

Groups I and II both contain species with and without the red humeral spots, and these groups are peculiar to the eastern parts of the continent. Group III contains no species as far as known with the humeral maculation, and is peculiar to the regions west of the

Rocky mountain divide. These groups are nearly, but probably not exactly, equivalent to those which have been indicated in the European fauna.

## Group I.

- Elytra with a more or less extended humeral spot of pale rufo-testaceous.  
 Elytra devoid of punctured series.  
 Eyes small.  
 Pubescence excessively short and sparse; form rather narrow and convex.....**haldemani**  
 Pubescence normal; form broader and more depressed; prothorax more transverse.....**fraterna**  
 Eyes very large; elytral lines strongly impressed but without distinct punctured series.....**megalops**  
 Elytra with distinct series of larger punctures.  
 Pronotum "hardly punctured".....**basillaris**  
 Pronotum distinctly, deeply punctured.  
 Form rather slender and depressed; head and prothorax small; elytra distinctly more than twice as long as wide.....**tenuis**  
 Form more convex; prothorax larger.  
 Elytra twice as long as wide; antennæ pale rufo-testaceous throughout.....**foveata**  
 Elytra scarcely more than two-thirds longer than wide; antennæ piceous-black, pale near the base; pubescence longer and more erect.....**gilvipes**  
 Elytra unicolorous throughout.  
 Elytra without punctured series; surface highly polished, deep black, very finely, sparsely punctured.....**nigerrima**  
 Elytra with distinct series of coarser punctures.  
 Prothorax much narrower than the elytra and but slightly wider than the head, sparsely punctate; eyes large.....**gracilis**  
 Prothorax scarcely narrower than the elytra, much wider than the head, coarsely and very densely cribrate; eyes small.....**rufipes**

## Group II.

- Elytra with a red humeral spot.  
 Pronotum narrowly, abruptly explanate at the sides.....**marginata**  
 Pronotum not explanate at the sides.  
 Eyes rather small, separated by twice their width; prothorax equal in width to the elytra.....**binotata**  
 Eyes large, separated by but slightly more than their width; prothorax narrower than the elytra.....**longula**  
 Elytra without humeral red spot.  
 Prothorax smooth, polished, extremely finely, sparsely punctured; elytral striæ very deeply impressed, almost sulciform; size large.....**bicolor**



Prothorax coarsely, rather densely punctured; elytral striæ moderately impressed.

Pronotum not explanate at the sides; under surface usually paler, with the two anal segments darker.....**analis**

Pronotum explanate laterally toward base; under surface pale brown, the apical segments not darker; elytral striæ more even ....**lugubris**

Group III.

Sides of the prothorax parallel or feebly divergent toward base; hind tarsi very long and slender.

Eyes large; prothorax but slightly narrower than the elytra; hind tarsi with the basal joint as long as the remainder.....**longipennis**

Eyes small; prothorax equal in width to the elytra; basal joint of the hind tarsi as long as the remainder.....**pacifica**

Eyes moderate; head and prothorax very small; elytra long; hind tarsi with the basal joint much shorter than the remainder.....**procera**

Sides of the prothorax convergent toward base.

Posterior tarsi slender; elytral humeri narrowly exposed.

Elytra with punctured series.....**pubipennis**

Elytra without trace of punctured series; form much more robust, the prothorax strongly transverse.....**nevadensis**

Posterior tarsi very short and stout; humeri broadly exposed.

**crassulipes**



**M. haldemani** Lec.—N. Spec. Col., 1866, p. 140.—Oblong, sub-parallel, rather strongly convex, highly polished throughout, black; the under surface paler, rufo-testaceous; legs flavate; antennæ fuscous, flavo-testaceous toward base; each elytron with a large basal red spot extending obliquely from near the suture to the humerus; pubescence excessively minute, sparse, recumbent and entirely inconspicuous. *Head* feebly convex, very minutely, sparsely punctate; eyes small, not prominent, separated by four times their width; antennæ about one-third as long as the body, joints very feebly obconical, not narrower toward apex, about two-thirds longer than wide, the third and fourth equal. *Prothorax* about two-thirds wider than long; sides strongly rounded, convergent and straighter toward base; apex truncate, nearly three-fourths as wide as the base, the latter transverse, the sinuations broad and very feeble; basal angles slightly obtuse but not rounded; disk strongly convex throughout, narrowly impressed in the middle toward base, extremely minutely and sparsely punctate, the basal foveæ almost obsolete. *Elytra* three times as long as the prothorax and not wider, parallel, rather gradually and acutely rounded behind; disk very finely, sparsely punctate, without trace of series and without impressed lines, except vaguely, the two sutural being quite distinct by obliquely reflected light. Under surface throughout finely, very sparsely punctate. *Legs* slender, sparsely pubescent; basal joint of the hind tarsi nearly as long as the remainder. Length 3.8–4.5 mm.; width 1.4–1.6 mm.

New York; Georgia; Florida.

The sexual differences appear to be exceedingly feeble.

This species is one of the smallest of the genus, and may readily be known by its extremely sparse minute punctuation, almost invisible pubescence and absence of elytral series.

**M. fraterna** Say.—Journ. Ac. Phil., III, 1823, p. 270; *laticollis* Lec.: Pr. Am. Phil. Soc., XVII, p. 617.—Oblong-elongate, subparallel, moderately convex, piceous-black, the under surface, legs and antennæ slightly paler, piceous to rufo-ferruginous, each elytron with a large pale oblique spot from near the suture to the humerus, polished; pubescence fine, short, not very dense and not conspicuous. *Head* feebly convex, rather finely, sparsely and somewhat unevenly punctate; eyes moderate, separated by but slightly more than twice their width; antennæ nearly one-half as long as the body, moderately slender, the joints very feebly obconical, not distinctly narrower toward apex, the intermediate about three-fourths longer than wide, third fully as long as, or perhaps a little longer than, the fourth. *Prothorax* about three-fourths wider than long, the apex feebly arcuate, scarcely two-thirds as wide as the base, the latter transverse, the sinuations almost obsolete, the angles slightly obtuse, not rounded; sides broadly, very distinctly arcuate throughout; disk widest near basal third, somewhat finely, sparsely punctate, broadly impressed in the middle toward base, the basal foveæ very broadly impressed and indefinite. *Elytra* a little more than three times as long as the prothorax, scarcely visibly wider, rather gradually and acutely rounded behind; disk somewhat strongly, sparsely and unevenly punctate, devoid of series and without impressed lines, except more or less vaguely near the suture. Under surface very sparsely punctate. Length 3.9–6.0 mm.; width 1.4–2.3 mm.

Pennsylvania; New York; Canada.

The description refers to the male which appears to be much smaller and more slender than the female. In the latter sex the antennæ are relatively shorter and the prothorax is slightly more transverse. *Fraterna* is more northern in its distribution than *haldemani*.

I think that the unique specimen described by LeConte as *laticollis* is simply an extreme form of the female of this species. The punctuation, especially of the head, is very uneven and quite variable in *fraterna*, and there seemingly exists a most perplexing plasticity in the form of the prothorax in some species—see remarks under *tenuis*. In fact I have before me a normally punctate specimen of *fraterna*, in which the prothorax is somewhat dilated and rather wider than the elytra, just as in the type of *laticollis*.

Although Melsheimer states that his *ruficornis* is distinct from *fraterna*, I am inclined to think that it is nothing more than an

immature specimen of this species, or at most a slight variety. According to the description it is "brown, pubescent, densely punctulate; antennæ, labrum, palpi and feet testaceous; thorax at base each side of middle with a small and profound impression; dorsal impression obsolete; scutel brown; elytra densely rugulose; toward the suture with faint traces of the interstices; base broadly and indeterminate testaceous; beneath pale brown; femora rather pale testaceous." The punctuation of *fraterna* is sometimes strongly rugulose, and, in regard to color, I have several specimens before me of *foveata*, the normal color of which is black with pale humeri, which have the elytra entirely pale from immaturity.

**M. megalops** n. sp.—Oblong-elongate, subparallel, rather depressed, polished, black, the under surface piceous-black; legs and antennæ slightly paler, piceous-brown, the latter paler toward base; pubescence moderate in length, dark, recumbent, sparse and inconspicuous. *Head* feebly, longitudinally convex, rather finely, densely punctate anteriorly, very sparsely and unevenly so between the eyes, the latter extremely large and convex, separated by about three-fourths their own width; antennæ robust, a little more than one-third as long as the body, apparently very feebly attenuate toward apex, the intermediate joints scarcely one-half longer than wide, third and fourth equal. *Prothorax* nearly four-fifths wider than long, the apex scarcely two-thirds as wide as the base, feebly arcuate; base transverse, the sinuations very feeble, the angles slightly obtuse but not rounded; sides broadly rounded and convergent anteriorly, less arcuate toward base; disk widest at about basal third, convex throughout, almost completely unimpressed, very finely and sparsely punctate. *Elytra* distinctly more than three times as long as the prothorax and equal in width to the disk of the latter, parallel, rather abruptly and obtusely rounded behind; disk somewhat strongly, asperately, but rather sparsely punctate, without series but with the impressed lines distinct except toward the sides, with a vague appearance of punctured series near the suture. Under surface finely, sparsely punctate throughout. *Legs* normal. Length 4.0 mm.; width 1.5 mm.

Indiana? Cab. Levette.

The single specimen is a male, and is remarkable in having eyes which are not only exceptionally large for the present genus, but in proportion to the size of the body, fully as large as in any other species of the family which I have seen. The elytra have, each, a large oblique basal spot of a reddish-yellow tint, as usual in this section of the genus. At first sight it resembles *Hymenorus humeralis*, but the tarsi are perfectly simple, the eyes large, the pubescence dark, more recumbent and sparser, and the elytra are devoid of distinct punctured series.

**M. basillaris** Say.—Journ. Ac. Phil., III, 1823, p. 269.

From the language employed by Say, it would seem as if this species might be easily recognized if discovered, but I have seen no specimens.

Say's description states that the head is punctured, the thorax hardly punctured, with three indefinite indented lines on the posterior margin; posterior angles rectangular; elytra with punctured striæ and interstitial lines; basal oval spot oblique; body dark chestnut-brown, beneath paler. Length one-fifth of an inch.

Inhabits Pennsylvania.

**M. tenuis** Lec.—N. Spec. Col., 1866, p. 140.—Elongate, moderately convex, subparallel, polished, piceous-black above and beneath; legs pale flavate; antennæ piceous, paler toward base; elytra each with a very small suffused reddish spot just behind the humerus, which is sometimes wanting; pubescence fine, rather short, very sparse and inconspicuous. *Head* evenly, feebly convex, rather coarsely but sparsely punctate; eyes rather large and convex, separated by nearly two-thirds more than their width; antennæ rather slender, not attenuate toward apex, a little less than one-half as long as the body, the intermediate joints fully twice as long as wide, third distinctly longer than the fourth. *Prothorax* about one-fourth wider than the head, two-fifths wider than long, the apex three-fourths as wide as the base, subtruncate; base transverse, very feebly arcuate in the middle; sides parallel and nearly straight from the base almost to apical two-fifths where they are broadly subangulate and rounded; basal angles right, not at all rounded, not depressed; disk feebly convex, more strongly so laterally toward apex, rather strongly but very sparsely punctate throughout, not impressed in the middle, the basal foveæ rather suffused but large and distinct. *Elytra* fully four times as long as the prothorax, and, throughout, nearly two-thirds wider, somewhat strongly narrowed behind in apical third; humeri rather broadly exposed, rounded; disk with somewhat vague, feebly impressed series of fine, feeble, not very approximate punctures, the intervals having sparsely placed punctures which are almost as large as those of the striæ, arranged in rather uneven single series. Under surface very finely, sparsely punctured throughout. *Legs* as in *gracilis*. Length 5.2–6.0 mm.; width 1.7–1.9 mm.

New York; Ohio; Michigan.

This distinct species may be readily known by its slender form, small head and prothorax, flavate legs and by its feebly marked elytral series. In general form it approaches *procera*, but that species has the prosternal process laminate.

The specimen from New York has the prothorax trapezoidal, with the sides nearly straight and convergent from base to apex, the basal angles being slightly acute and the elytra relatively a

little longer. As it is precisely similar to the normal forms in every other particular, I am inclined to regard it as an accidental variation.

**M. foveata** Lec.—N. Spec. Col., 1866, p. 140.—Elongate, suboval, polished, moderately convex, piceous-black throughout, the legs and antennæ flavate; elytra sometimes testaceous throughout, but normally black, with a small suffused subhumeral reddish spot; pubescence short, fine, extremely sparse, dark and inconspicuous. *Head* suborbicular, feebly, evenly convex, finely, sparsely punctate; eyes very small, not prominent, separated by nearly four times their width; antennæ somewhat robust, not attenuate, scarcely two-fifths as long as the body, the intermediate joints strongly obconical, about one-half longer than wide, third quite distinctly longer than the fourth. *Prothorax* nearly one-half wider than the head, two-fifths wider than long, the apex subtruncate, three-fourths as wide as the base, the latter transverse and straight; sides strongly rounded at the middle, thence strongly convergent and feebly arcuate to the apex, and distinctly convergent and broadly sinuate to the basal angles, which are right and not at all rounded; disk strongly declivous toward the apical angles, finely but deeply, distinctly, sparsely punctate, narrowly, feebly impressed in the middle toward base; basal foveæ rounded, moderate in size, very deep and distinct. *Elytra* a little more than three times as long as the prothorax; sides feebly arcuate; disk slightly wider behind the middle, at base a little wider than the pronotal disk, the humeri distinctly exposed, narrowly rounded; surface with feebly impressed series of rather coarse, moderately close punctures, the intervals each with a single series of very fine punctures. *Abdomen* very finely sparsely punctate; anterior portions more coarsely but sparsely so. *Legs* moderately slender, normal. Length 5.0–5.8 mm.; width 1.8–2.2 mm.

Michigan; Iowa; Indiana.

The situation of the sides of the prothorax is not always so apparent as in the type, these often being convergent and straight from near the middle to the base; it is more apparent in the large specimens, and may therefore be more especially a female characteristic. Otherwise there does not appear to be any noteworthy sexual difference.

**M. gilvipes** n. sp.—Moderately robust and convex, suboval, polished, black; under surface dark rufo-testaceous, the legs flavate; antennæ piceous-black, paler toward base; each elytron with a large, clearly limited, oblique basal spot, extending to internal third of the width; pubescence rather long and erect, but dark, sparse and inconspicuous. *Head* feebly convex, rather coarsely but sparsely and feebly punctate; eyes rather small, separated by scarcely three times their width; antennæ robust, the joints strongly obconical, generally about one-half longer than wide, the third much longer than the fourth. *Prothorax* about one-third wider than long, the apex feebly arcuate,

three-fourths as wide as the base, the latter straight; sides broadly rounded, convergent and straight, or very feebly sinuate, from behind the middle to the base, the angles rather distinctly obtuse but not at all rounded; disk distinctly impressed in the middle toward base, rather coarsely, deeply and sparsely punctate, the basal foveæ small, deep and conspicuous. *Elytra* a little less than three times as long as the prothorax, and, behind the middle, about two-fifths wider; base slightly wider than the disk of the latter, the humeri distinctly exposed; sides feebly arcuate behind, gradually and acutely rounded at apex; disk punctured and impressed nearly as in *foveata*. Under surface very sparsely punctate, the abdomen minutely so. *Legs* rather short. Length 4.7 mm.; width 1.8 mm.

North Carolina.

The single specimen serving as the basis of the above description, represents a species closely allied to *foveata*, but distinguishable by its distinctly shorter broader elytra, smaller size, longer and more erect pubescence, slightly larger and more approximate eyes, blackish antennæ, much larger, more abruptly defined basal spots of the elytra, and slightly coarser punctuation.

**M. nigerrima** n. sp.—Oblong, parallel, moderately convex, highly polished, intense black throughout above; legs and under surface piceous-black, the tarsi paler; antennæ pale brownish-testaceous throughout; pubescence fine, short, dark, very sparse and inconspicuous. *Head* feebly, evenly convex, finely, very sparsely punctate; eyes rather small, separated by nearly three times their width; antennæ rather robust, barely more than one-third as long as the body, scarcely attenuate toward apex, the intermediate joints obconical, with the sides rounded, not quite one-half longer than wide, third and fourth equal. *Prothorax* four-fifths wider than long, the apex broadly arcuate, two-thirds as wide as the base, the latter transverse, with a small feeble sinuations at each side of the middle; sides broadly arcuate throughout, more convergent toward apex; basal angles obtuse and very narrowly rounded; disk extremely minutely, sparsely punctate, barely perceptibly impressed in the middle toward base, the basal foveæ broadly impressed and indefinite, but each apparently having a very small foveiform puncture in the middle. *Elytra* a little more than three times as long as the prothorax, and, at the middle, scarcely visibly wider than the disk of the latter, gradually, not very acutely rounded at apex; sides parallel and feebly arcuate; humeri not exposed; disk finely, sparsely punctate, without series, the impressed lines very feeble, but visible by obliquely reflected light, almost throughout the width, the punctures aggregated in wide longitudinal lines, with more sparsely punctate intervals. Under surface finely, sparsely punctate. *Legs* normal, the posterior tarsi much shorter than the tibiæ. Length 5.3 mm.; width 2.0 mm.

New York.

The single specimen representing this species is related to *fraterna*, but is immediately distinguishable by the complete absence

of basal pale spots on the elytra, by the finer sparser punctuation, smaller and more distant eyes and dark legs.

**M. gracilis** Lec.—Proc. Am. Phil. Soc., XVII, p. 615.—Elongate, moderately convex, subparallel, polished, black throughout; legs black, the tarsi slightly paler; antennæ dark rufo-ferruginous; pubescence fine, moderate in length, rather sparse and inconspicuous. *Head* with a feeble impression at the middle of the interocular surface, rather coarsely but sparsely punctate; eyes large and convex, separated by two-fifths more than their own width; antennæ nearly two-fifths as long as the body, robust, feebly attenuate toward apex, the intermediate joints fully three-fourths longer than wide, feebly obconical, third and fourth equal in length. *Prothorax* about one-third wider than the head, nearly one-half wider than long, the apex two-thirds as wide as the base, subtruncate; base transverse, the sinuations almost obsolete; sides subangulate at apical third, thence very feebly divergent and straight to the basal angles, more strongly convergent and nearly straight to the apex; basal angles right, not rounded; disk very feebly convex, except toward the sides anteriorly where it becomes strongly declivous, rather finely but deeply, distinctly, very sparsely punctate, the punctures becoming coarse and rather dense laterally and anteriorly, broadly, strongly impressed along the middle toward base, the basal foveæ almost obsolete. *Elytra* about four times as long as the prothorax, and, throughout, about three-fourths wider, parallel, the humeri exposed and slightly rounded; apex rather gradually and acutely rounded; disk with even series of small deep close-set punctures, the rows scarcely visibly impressed, the intervals flat, each with a rather uneven single series of smaller punctures. Under surface very finely, sparsely punctate throughout, except the metasternum which is rather more coarsely and densely so, the latter as usual totally impunctate posteriorly. *Legs* slender, the basal joint of the hind tarsi fully as long as the remainder. Length 5.5 mm.; width 2.0 mm.

Michigan (Marquette). Cab. LeConte.

The unique type has the partly concealed apical pseudosegment narrow and strongly rounded at apex. I cannot determine its sex, but it is probably a male.

This species somewhat resembles *tenuis*, but may be distinguished by its more robust form, larger eyes, more distinct elytral series, absence of humeral pale spot and several other characters.

**M. rufipes** Lec.—Bost. Journ., I, p. 170.—Oblong, parallel, rather strongly convex, dark piceous-brown, the under surface rufo-testaceous; legs flavate; antennæ brown, paler toward base; integuments shining; pubescence rather coarse, moderate in length, fulvous, dense and conspicuous. *Head* broad, inserted in the prothorax nearly to the eyes, feebly, evenly convex, coarsely, rather densely punctate, the punctures distinctly separated; eyes rather small, separated by about two and one-half times their width; antennæ

slender, not attenuate, nearly one-half as long as the body, the intermediate joints fully twice as long as wide, third distinctly shorter than the fourth. *Prothorax* about two-thirds wider than long; sides nearly parallel, feebly arcuate, rounded anteriorly, the apex feebly arcuate and but slightly narrower than the base, the latter transverse, the sinuations almost obsolete; basal angles slightly obtuse, not at all rounded; disk transversely convex from base to apex, not impressed, coarsely, extremely densely, deeply punctate throughout, the punctures nearly in mutual contact; basal foveæ obsolete. Scutellum rather short and broad. *Elytra* about three times as long as the prothorax, and, throughout, about one-fifth wider, parallel, obtusely rounded behind; disk cylindrically convex, polished, with almost unimpressed series of small but deep, close-set punctures, the intervals extremely minutely, sparsely punctate. *Abdomen* very minutely, sparsely punctate, the metasternum more coarsely but sparsely so, the prosternum and propleuræ not very coarsely, but extremely densely so. *Legs* rather short and robust, but otherwise normal. Length 4.5 mm.; width 1.8 mm.

New York. Cab. LeConte.

The unique type represents a very isolated species, not remotely approaching any other, although in general somewhat recalling *marginata* of the next group. I do not know the sex of the specimen described, but it is apparently the female.

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**M. marginata** Lec.—Proc. Am. Phil. Soc., XVII, p. 618.—Oblong-elongate, subparallel, moderately convex, black throughout; antennæ and legs concolorous; elytra with a rather distinctly limited red spot at the humeri, polished, the pubescence short, fine, moderately dense but not conspicuous. *Head* feebly convex, coarsely, deeply, rather densely punctate, the punctures separated by nearly their own diameters; eyes small, separated by about three times their own width; antennæ short and robust, a little more than one-third as long as the body, joints after the third strongly obconical, the latter cylindrical and fully as long as the fourth, intermediate joints nearly one-half longer than wide, toward apex gradually attenuated. *Prothorax* one-half wider than long; sides nearly parallel, rather feebly, evenly arcuate, rounded at apex, the latter four-fifths as wide as the base, truncate; base transverse, the angles very slightly obtuse but not rounded; disk narrowly, strongly explanate along the sides, coarsely, deeply punctate, the punctures separated by from once to twice their own widths, but densely aggregated in a large irregular spot in the middle at each side; basal foveæ large and shallow but distinct. *Elytra* about three and one-half times as long as the prothorax, and, near the middle, about one-third wider, at base just visibly wider than the base of the prothorax; humeri right, narrowly rounded; apex abruptly and obtusely rounded; disk with very feebly impressed even rows of small deep close-set punctures, the series becoming deeper and the punctures larger toward the suture; intervals scarcely convex, finely, sparsely and unevenly



punctate. *Abdomen* very finely, sparsely punctate. *Legs* slender; tibiae rather densely clothed with short coarse fulvous hairs; posterior tarsi scarcely three-fourths as long as the tibiae, with the basal joint very much shorter than the remainder. Length 5.0 mm.; width 1.9 mm.

Michigan (Marquette). Cab. LeConte.

The unique type is a female, and the species is quite isolated as far as known, the very coarse punctuation reminding us only of *rufipes*.

**M. binotata** Say.—Long's Expd., II, 1824, p. 285.—Oblong-elongate, parallel, moderately convex; body throughout, legs and antennæ black; tarsi paler; each elytron with a large rounded humeral pale reddish spot; surface polished; pubescence rather long, semi-erect, dark, not very dense, moderately conspicuous. *Head* feebly convex, coarsely, somewhat unevenly punctate, the punctures generally separated by their own diameters or more; eyes moderate, rather convex, separated by twice their width; antennæ a little less than one-third as long as the body, rather robust, feebly attenuate toward apex, the intermediate joints distinctly obconical, about one-half longer than wide, third scarcely longer than the fourth. *Prothorax* three-fourths wider than long, the apex subtruncate, two-thirds as wide as the base, the latter transverse, the narrow sinuation at each side of the middle feeble; sides broadly rounded anteriorly, distinctly convergent and nearly straight from behind the middle to the basal angles, which are obtuse but not rounded; disk broadly, very indefinitely impressed along the middle, rather coarsely, deeply and somewhat sparsely punctate, the basal foveæ rounded, feebly impressed. *Elytra* rather more than four times as long as the prothorax, and, throughout, equal in width to the disk of the latter, parallel, the sides straight, gradually, rather acutely rounded behind, the two bases equal in width; disk with scarcely impressed series of small moderately close-set punctures, which almost disappear completely toward apex, the intervals finely, sparsely and confusedly punctate. *Abdomen* and metasternum very finely, sparsely punctate, the prosternum and propleuræ more coarsely and much more densely so. *Legs* rather short, slender, basal joint of the hind tarsi as long as the remainder. Length 6.6–7.5 mm.; width 2.5–2.6 mm.

Michigan (Marquette); New York.

The anterior coxal cavities are by no means confluent as stated by LeConte (N. Spec. Col., 1866, p. 138, foot-note), but the thin lamina separating them is almost completely hidden below and between the unusually large and prominent coxæ. This lamina gradually becomes broader behind, and widely separates the side-pieces of the prosternum at the posterior margin; it is on the same level as the latter throughout its length.

This is a large and conspicuous species, readily known by its

oblong parallel form and coloration. The two or three basal joints of the antennæ and the palpi, are dark rufo-testaceous.

**M. longula** Lec.—Proc. Am. Phil. Soc., XVII, p. 618.—Elongate, subparallel, rather strongly, convex, flattened toward the middle, polished, black throughout; legs and antennæ concolorous; elytra each with a small rounded rufo-testaceous spot at the humerus; pubescence fine but rather long, sparse but distinct. *Head* feebly convex, rather coarsely but not very densely punctate; eyes large, separated by but slightly more than their own width; antennæ robust, about two-fifths as long as the body, the joints generally feebly obconical and one-half longer than wide, third and fourth subequal. *Prothorax* two-thirds wider than long; apex subtruncate, two-thirds as wide as the base, the latter transverse; sides broadly rounded and convergent anteriorly, becoming parallel and nearly straight toward base, the basal angles right, not distinctly rounded; disk strongly declivous anteriorly and laterally, elsewhere feebly convex, rather coarsely, sparsely, but roughly punctured, feebly impressed in the middle toward base, the basal foveæ shallow but distinct. *Elytra* between four and five times as long as the prothorax, and, throughout, about two-fifths wider, the humeri narrowly exposed; apex rather abruptly and obtusely rounded; sides parallel and nearly straight; disk with feebly impressed series of small inconspicuous punctures, the striæ not distinct except toward the suture; intervals throughout with very fine punctures, arranged in more or less even rows. Under surface sparsely finely punctate. *Legs* rather long, normal, the hind tarsi but slightly shorter than the tibiæ, with the basal joint nearly as long as the remainder. Length 5.5 mm.; width 1.9 mm.

Michigan (Detroit). Cab. LeConte.

The prothorax in general outline is similar to the prevailing type in *Hymenorus*. The anterior coxæ are large, subcontiguous, conoidal and prominent, the cavities separated by a very narrow lamina, apparently horizontal and almost completely concealed by the coxæ.

This species is quite isolated, although bearing a remote general resemblance to several others such as *tenuis* and *procera*. It is represented, as far as known to me, only by the original unique type, taken by Mr. Schwarz.

**M. bicolor** Coup.—The Canad. Nat., 1865, p. 62.—Oblong-elongate, rather convex, highly polished, intense black above; under surface, legs and antennæ pale rufo-testaceous, the propleuræ, epipleuræ, metasternal episterna and last two ventral segments blackish; pubescence short, very sparse, dark and inconspicuous. *Head* feebly, evenly convex, finely, very sparsely punctate; eyes moderate, rather convex, separated by twice their own width; antennæ rather slender, nearly two-fifths as long as the body, the intermediate joints feebly obconical, more than twice as long as wide, third rather

longer than the fourth. *Prothorax* two-thirds wider than long, the apex truncate, three-fourths as wide as the base, the sinuations of the latter rather distinct, the basal angles extending posteriorly slightly beyond the median parts, right, not at all rounded, not prominent; sides broadly rounded anteriorly, feebly convergent and nearly straight thence to the base; disk widest distinctly before the middle, minutely, very sparsely punctate, the punctures slightly coarser and denser toward the sides, narrowly, feebly impressed in the middle toward base, the basal foveæ very small, rounded, deep and almost perforate. *Elytra* four times as long as the prothorax, and, behind the middle, one-half wider, at the humeri slightly wider than the pronotal disk, the humeri very slightly exposed; apex rather abruptly and obtusely rounded; sides broadly arcuate behind; disk with very deeply impressed series of moderate, rather deep punctures, the intervals convex, minutely, sparsely and confusedly punctate. Under surface very finely, sparsely punctate, the metasternum much more finely and sparsely so than its episterna. *Legs* moderate in length, the femora rather robust, the first joint of the hind tarsi distinctly shorter than the remainder. Length 8.5 mm.; width 3.4 mm.

Canada. Cab. LeConte.

This is a remarkably distinct species, immediately recognizable by the smooth, highly polished, minutely, sparsely punctate surface and deeply impressed, almost sulciform elytral striæ. The maxillary palpi do not differ much from those of *lugubris* and *analís*.

The narrow lamina separating the anterior coxæ is convex longitudinally, but comes far from attaining the level of the coxal apices.

**M. analís** Lec.—Proc. Am. Phil. Soc., XVII, p. 618.—Elongate-oval, moderately convex, dark piceous-brown; under surface and antennæ paler, brownish-testaceous, the last two abdominal segments darker, piceous; legs paler, more flavate; polished; pubescence fine, rather sparse, dark and inconspicuous. *Head* feebly, evenly convex, rather coarsely, densely, deeply punctate; eyes moderate, separated by rather distinctly more than twice their width; antennæ two-fifths as long as the body, nearly as in *lugubris*, but with the third joint very slightly shorter than the fourth. *Prothorax* two-thirds wider than long, the apex truncate, three-fourths as wide as the base, the latter transverse; sides broadly, almost evenly rounded throughout; basal angles obtuse, very narrowly rounded; disk somewhat coarsely, moderately closely punctate, the punctures finer, feebler and more distant than those of the head, not explanate at the sides, not appreciably impressed in the middle, the basal foveæ almost obsolete. *Elytra* nearly four times as long as the prothorax, and, behind the middle, nearly one-half wider, at the humeri very slightly wider than the disk of the pronotum; humeri not exposed; apex rather abruptly and obtusely rounded; sides broadly arcuate behind; disk with feebly impressed series of small, rather inconspicuous punctures, the intervals feebly convex, finely, confusedly and rather sparsely punctate, the

series rather uneven in their course, the intervals varying in width. Under surface, legs and coxæ nearly as in *lugubris*. Length 6.8–7.6 mm.; width 2.8–3.0 mm.

New Jersey; Michigan.

This species is closely allied to *lugubris*, but may be distinguished by its slightly smaller eyes, the unexplanate sides of the prothorax, and more feebly impressed, less conspicuously punctured and more uneven elytral striæ, as well as by its rather larger size and more robust form.

One specimen before me, from New York, is black above and piceous-black throughout beneath, and, as I notice a few other slight differences, it may possibly indicate a variety.

The maxillary palpi are rather shorter and thicker than in *lugubris*, the recti-triangular fourth joint being but slightly longer than wide.

**M. lugubris** Lec.—Proc. Am. Phil. Soc., XVII, p. 618.—Elongate-oval, rather convex, piceous-black; under surface throughout paler, brown; legs and antennæ still paler, more flavate; polished, the pubescence very fine, semi-erect, short, moderately dense but nearly of the same color as the body and not conspicuous. *Head* feebly convex, coarsely, deeply, rather densely punctate; eyes moderate, separated by about twice their width; antennæ moderately robust, scarcely two-fifths as long as the body, feebly attenuate toward apex, joints obconical, in the male nearly twice as long as wide, a little shorter in the female, third and fourth equal. *Prothorax* two-thirds wider than long; apex truncate or very feebly sinuate, two-thirds as wide as the base, the latter transverse and straight; sides broadly, almost evenly rounded throughout, more convergent toward apex; basal angles obtuse and very narrowly rounded; disk distinctly explanate from just before the middle, more broadly around the basal angles, and thence gradually more narrowly along the base, rather coarsely, deeply, somewhat unevenly and densely punctate, the punctures separated by about their own widths; broadly, feebly impressed in the middle toward base, the basal foveæ extremely feeble and indefinite. *Elytra* nearly four times as long as the prothorax, and, behind the middle, two-fifths wider, rather abruptly and obtusely rounded behind, at the humeri just visibly wider than the disk of the pronotum, the humeri not exposed; sides broadly arcuate, especially behind; disk with rather deeply impressed regular series of rather small but deep close-set punctures, the intervals convex, finely, confusedly and somewhat closely punctate. Under surface finely, sparsely punctate, a little more coarsely so anteriorly. *Legs* slender, normal. Length 6.4–7.0 mm.; width 2.3–2.9 mm.

New York; Kansas.

The anterior coxæ are large, very prominent and approximate, globulo-conoidal, the cavities separated by a thin lamina which is

apparently on the same level as the prosternum. The fourth joint of the maxillary palpi is in the form of a right-angled triangle, thick, convex, twice as wide, and more than twice as long as the third. The abdomen is a little more densely and finely punctured toward apex.

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**M. longipennis** n. sp.—Oblong-elongate, rather depressed, parallel, polished, rather pale piceous-brown throughout; legs more flavate; pubescence fine, short, not dense, pale but inconspicuous. *Head* rather large, transversely flat between the eyes, which are very large and prominent, separated by about their own width; punctures rather dense, somewhat coarse and confused; antennæ nearly two-fifths as long as the body, moderately robust, feebly, gradually attenuate, third joint long, distinctly longer than the fourth, joints five to eleven equal in length and much shorter than the fourth. *Prothorax* scarcely one-half wider than the head, three-fourths wider than long; apex truncate, two-thirds as wide as the base, the latter transverse, the lateral sinuations broad but distinct; sides broadly rounded and convergent anteriorly, parallel and nearly straight in basal half; basal angles right, very narrowly rounded; disk rather abruptly, narrowly explanate at the sides anteriorly, gradually deplanate toward the basal angles, broadly, feebly impressed along the middle, not very densely, rather coarsely and roughly punctate; basal foveæ broadly, feebly impressed and indefinite. *Elytra* nearly five times as long as the prothorax, and, throughout, about one-fourth wider, parallel, the sides straight; humeri rather abruptly rounded and slightly exposed; apex somewhat abruptly obtusely rounded; disk finely, rather sparsely punctate, the impressed lines rather distinct throughout the width, the punctures having a generally closely seriate arrangement, but without any definite series of larger punctures. Under surface very sparsely, finely punctate. *Legs* normal, the basal joint of the hind tarsi nearly as long as the remainder. Length 6.8 mm.; width 2.2 mm.

California (San Bernardino).

The anterior coxæ are large but not very prominent, and are separated throughout their length and depth by a thin prosternal lamina, the exposed surface of which is strongly, longitudinally convex. The species is not closely allied to any other before me, and may be known by its parallel depressed form, large eyes and peculiar antennal structure.

**M. pacifica** n. sp.—Oblong, rather feebly convex, subparallel, piceous-black, the under surface but slightly paler; legs and antennæ dark brown; lustre shining, the anterior parts just visibly alutaceous; pubescence very short, sparse, recumbent and inconspicuous. *Head* rather convex, finely, rather sparsely punctate, the epistoma abruptly deplanate; eyes small, sepa-

rated by nearly three times their width; antennæ rather slender, but slightly more than one-third as long as the body, joints moderately obconical, about three-fourths longer than wide, the third and fourth equal in length. *Prothorax* rather large, two-thirds wider than long, the apex subtruncate, nearly as wide as the base, the latter transverse, the sinuations broad and distinct; sides somewhat strongly arcuate, the apical angles broadly rounded, basal slightly obtuse but not rounded; disk a little wider before the middle than at base, broadly, feebly but distinctly impressed throughout along the middle, finely, but strongly, rather sparsely punctate, the basal foveæ large and feebly impressed. *Elytra* about twice as long as wide, not quite four times as long as the prothorax, and, in the middle, very slightly wider than the latter, rather obtusely parabolic at apex; sides parallel and feebly arcuate, the two bases equal, humeri not exposed; disk with feebly impressed lines, more distinct toward the suture, the lines minutely, feebly punctate, the intervals finely, confusedly, rather sparsely punctate, the punctures rather larger and more distinct than those of the striæ. *Abdomen* sparsely, extremely minutely and scarcely perceptibly punctate. *Legs* slender, the basal joint of the hind tarsi about as long as the remainder. Length 7.0 mm.; width 2.5 mm.

#### California.

The sex of the unique type is not apparent and cannot be determined without dissection. This species is not closely allied to any other and may be readily distinguished by the characters given in the table.

**M. procera** n. sp.—Elongate, subdepressed, shining, piceous-black throughout, the tarsi slightly paler; pubescence fine, short, dark, moderately dense, not conspicuous. *Head* small, feebly convex, more or less finely and sparsely punctate; eyes moderate, rather convex, separated by a little less than twice their width; antennæ very slender, filiform, nearly one-half as long as the body, third joint fully three times as long as the second and distinctly longer than the fourth. *Prothorax* small, but slightly wider than the head, about one-half wider than long; apex subtruncate, three-fourths as wide as the base, the latter broadly, just visibly arcuate; sides almost straight and parallel in basal two-thirds, then broadly rounded to the apex; basal angles right, not rounded; disk feebly convex, more or less finely and sparsely, but very distinctly punctate, broadly, feebly impressed in the middle near the basal margin, broadly explanate toward the basal angles, the basal foveæ nearly obsolete. *Elytra* between five and six times as long as the prothorax, and, behind the middle, about twice as wide; sides parallel, feebly arcuate behind; apex rather abruptly ogival; humeri broadly rounded and widely exposed; disk finely, somewhat densely punctate, the fine, feebly impressed lines distinct, but without definite punctured series, the punctures generally however with a closely subseriate arrangement. Under surface polished, very finely, sparsely punctate. *Legs* long, rather slender; posterior tarsi equal in length to the tibiæ, the basal joint scarcely longer than the next two combined. Length 5.5–6.0 mm.; 1.8–2.0 mm.

Idaho; California (Los Angeles).

The last joint of the maxillary palpi is moderately robust, scarcely twice as long as wide, the two sides making an angle of about sixty degrees at base, the inner about one-half as long as the outer and three-fourths as long as the apex. The anterior coxæ and extremely thin prosternal lamina are nearly as in *longipennis*, from which the present species can at once be known by its more slender depressed form, small head and prothorax and long posterior tarsi, with unusually short basal joint.

The specimen from California has the head, and to some extent also the prothorax, much more densely punctate than that from Idaho, and the head is a little larger in the former. These differences are probably in great part sexual, and I think generally but little reliance is to be placed upon degree of punctuation in the present genus. The genera with lobed tarsi are much more constant in specific characters.

**M. pubipennis** Lec.—Proc. Am. Phil. Soc., XVII, p. 617.—Parallel, moderately convex, polished, dark brown throughout; pubescence dark, fine, semi-erect, rather dense. *Head* feebly convex, finely, sparsely punctate; eyes small, lateral, transverse, above separated by nearly five times their width; antennæ two-fifths as long as the body, rather robust, joints obconical, generally one-half longer than wide, the third a little longer than the fourth. *Prothorax* but slightly more than one-third wider than the head, one-half wider than long, the apex truncate, very nearly as wide as the base, the latter transverse; sides feebly arcuate throughout, a little more strongly so anteriorly, feebly convergent thence to the basal angles, which are obtuse but not rounded; disk widest a little before the middle, somewhat finely and sparsely but very distinctly punctate, broadly, feebly impressed in the middle toward base, also feebly impressed or subexplanate near the basal angles; basal foveæ not noticeable. *Elytra* fully three times as long as the prothorax, and, at the middle, just visibly wider; humeri but very slightly exposed; apex rather gradually, evenly ogival; sides parallel, very feebly arcuate; disk with very feebly impressed series of fine, rather approximate punctures, which become obsolete toward the sides and apex; intervals throughout very finely, unevenly and rather densely punctate. Under surface finely, sparsely punctate. *Legs* rather short, the femora somewhat stout; hind tarsi much shorter than the tibiæ, with the basal joint much shorter than the remainder. Length 4.7 mm.; width 1.8 mm.

California (southern).

The anterior coxæ are moderate in size, not very prominent, and separated throughout their depth by a narrow, longitudinally convex lamina. The fourth joint of the maxillary palpi is more than

twice as long, and nearly twice as wide as the third, the sides making an angle at the base of about eighty degrees, the inner scarcely one-half as long as the outer, and the outer but slightly longer than the apex, the angles not rounded and the bounding lines nearly straight.

This species may be easily known by its dark brown color, rather long dense and dark brown pubescence and small eyes.

**M. nevadensis** n. sp.—Oblong, broad, rather depressed, polished, dark piceous-brown above, the under surface, legs and antennæ paler and more flavate; pubescence very short and sparse, pale but inconspicuous. *Head* feebly convex, finely, sparsely punctate; eyes small, separated by scarcely four times their width; antennæ robust, scarcely two-fifths as long as the body, the joints obconical and nearly three-fourths longer than wide, the third not distinctly longer than the fourth. *Prothorax* three-fourths wider than the head and four-fifths wider than long, the apex truncate or very feebly sinuate, rather distinctly narrower than the base, the latter transverse; sides broadly rounded; basal angles obtuse and slightly rounded; disk sometimes broadly feebly impressed along the middle, the impression evanescent, very finely, sparsely punctate, the punctures becoming denser toward the sides; basal foveæ large, feeble and indefinite. *Elytra* three times as long as the prothorax, at base rather distinctly wider than the disk of the latter, and, at the middle, about one-third wider, rather abruptly and obtusely rounded behind; humeri very narrowly exposed; disk finely, sparsely punctured, with feeble traces of impressed lines toward the suture, but without trace of punctured series. Under surface polished, very finely and sparsely punctate. *Legs* moderate in length, hind tarsi rather slender, much shorter than the tibiæ, with the basal joint four times as long as wide and three-fourths as long as the remainder. Length 4.8 mm.; width 2.1 mm.

Nevada (Reno).

This species belongs to a small group peculiar to the Pacific coast, including also *pubipennis* and *crassulipes*; it is readily distinguishable from either of these by its much broader form, more transverse prothorax, distinctly larger eyes and complete absence of punctured series. One specimen has two discal foveæ on the prothorax, of an adventitious nature, similar to those which appear occasionally throughout the Tenebrionidæ. The coxæ are similar to those of *pubipennis*, but the palpi are rather shorter and more robust.

**M. crassulipes** n. sp.—Rather slender, suboval, moderately convex, pale ochreous-flavate throughout, polished; pubescence rather short and coarse, sparse, pale ochreous-flavate in color. *Head* feebly convex, finely, sparsely punctate, the eyes small, lateral, transverse, not prominent, separated above by between four and five times their width; antennæ very robust,



scarcely two-fifths as long as the body, the joints generally strongly obconical and but slightly longer than wide, the third nearly one-half longer than the fourth. *Prothorax* nearly two-thirds wider than long, the apex truncate, nearly as wide as the base, the latter transverse; sides broadly rounded anteriorly, straight or feebly sinuate and rather strongly convergent thence to the basal angles, which are obtuse and not rounded; disk much wider slightly before the middle than at base, not noticeably impressed in any part, somewhat coarsely and sparsely punctured, the basal foveæ entirely obsolete. *Elytra* between three and four times as long as the prothorax, and, at the middle, nearly one-half wider, gradually, evenly ogival at apex; humeri narrowly rounded, rather broadly exposed, the width at this point distinctly greater than that of the pronotal disk; sides feebly but distinctly arcuate throughout; disk rather finely, sparsely and confusedly punctate, with feebly impressed lines and series of punctures toward the suture only. Under surface finely, sparsely punctate. *Legs* short and unusually robust, the hind tarsi much shorter than the tibiæ, with the basal joint not more than three times as long as wide, and but little longer than the next two. Length 4.0 mm.; width 1.6 mm.

California (Hoopa Valley, Humboldt Co.).

Easily distinguishable from *pubipennis* by its pale color, smaller, more cordate and unimpressed prothorax, much shorter, more robust antennal joints, pale shorter and coarser pubescence, sparser punctuation and shorter more robust legs and tarsi. The unique specimen is a female and the before described type of *pubipennis* is also of that sex.

#### ISOMIRA Muls.

Although the species here assigned to *Isomira* have a community of habitus which decidedly indicates the propriety of associating them together, it is difficult to state any absolutely definitive structural characters. The maxillary palpus varies, in its terminal joint, from the slender form seen in *sericea*, through the rather broadly triangular of *pulla*, to the form seen in *quadristriata*. The antennæ have the third and fourth joints equal in rather more than half the species, but in the remainder the former is much the shorter of the two, sometimes approaching the form seen in *Cistela* and the European *antennata*. The elytra may be almost completely devoid of impressed striæ, or may have more or less feebly impressed rows of punctures as in *valida*, *texana* and many of the Central American forms.

The only character which satisfactorily distinguishes the genus from *Cistela*, apart from the very pronounced peculiarity of facies,

appears to be the slender filiform antennæ, a differential character corresponding with that made use of by Mr. Champion for the separation of *Allecula* and *Hymenorus*.

Our species are found on foliage of low plants and are moderately abundant. They are easily differentiated as follows:—

Elytra without distinct series of punctures.

Fourth joint of the maxillary palpi long and slender.

Antennæ with the third joint distinctly shorter than the fourth, at least in the male.

Eyes very large, the front broadly, deeply impressed; color pale throughout ..... **iowensis**

Eyes small or moderate; front not impressed.

Color black, the prothorax rufo-ferruginous; elytral punctuation sparse ..... **discolor**

Color piceous-black throughout; elytral punctuation extremely dense. **tenebrosa**

Antennæ with the third and fourth joints equal or subequal, elongate.

Eyes moderate; elytral punctuation and pubescence exceedingly dense; color pale ochreous-flavate throughout ..... **sericea**

Eyes small, not prominent; punctuation of the head and pronotum fine, very dense; elytral punctures sparser; color variable.

**variabilis**

Eyes very small, convex and prominent; head and pronotum rather coarsely punctate; size smaller ..... **luscitiosa**

Fourth joint much shorter and more dilated, but with the outer side distinctly longer than the apex; punctuation very dense throughout; color piceous-black ..... **pulla**

Fourth joint robust, the outer side but slightly longer than the apex.

Elytral punctuation sparse; eyes small, the elytra without impressed lines except the two sutural toward apex.

Third and fourth antennal joints equal in both sexes; prothorax small, much narrower than the elytra ..... **quadristriata**

Third joint shorter than the fourth; prothorax larger, subequal in width to the elytra ..... **monticola**

Elytral punctuation dense; eyes large; third antennal joint shorter than the fourth; elytra with fine but distinct impressed lines throughout the width ..... **oblongula**

Elytra with series, more or less complete and sometimes feebly impressed, of small punctures; maxillary palpi with the terminal joint but slightly shorter and more robust than in *sericea*; eyes large.

Eyes in the male separated by scarcely two-thirds their own width.

**valida**

Eyes in the male separated by fully their own width; form more oblong and parallel; elytral series feebly impressed ..... **texana**

**I. iowensis** n. sp.—Almost evenly elliptical, convex, pale brownish-piceous, the head and prothorax slightly more rufo-ferruginous; surface shining, the pubescence very short and somewhat sparse. *Head* very densely and somewhat coarsely punctate, the front broadly, strongly impressed; eyes very large; antennæ slender, filiform, three-fifths as long as the body. *Prothorax* four-fifths wider than long; sides feebly convergent from the base, more strongly so and broadly rounded anteriorly; apex feebly arcuate, two-thirds as wide as the base, the latter transverse and nearly straight; basal angles right; disk punctured like the head, the punctures unusually coarse, deep and distinct, nearly in mutual contact; basal foveæ very feeble, transverse, on the posterior convexity and bordering the edge. *Elytra* nearly four times as long as the prothorax, and, at the middle, about one-half wider; disk finely and rather sparsely punctate, the feeble impressed lines quite distinctly visible by reflected light throughout the width, the two sutural strong toward apex. Under surface polished; abdomen minutely and sparsely punctate; metasternum rather coarsely and sparsely so, with an unusually large impunctate area in front of the transverse groove. *Legs* long and very slender, the hind tarsi nearly as in *sericea*.

*Male*.—Eyes separated by scarcely one-fourth more than their own width; third joint of the antennæ two-thirds as long as the fourth.

Length 5.2 mm.; width 2.2 mm.

#### Iowa.

The single specimen before me seems to be slightly immature. The maxillary palpi are nearly as in *sericea*, but with the inner angle of the terminal joint rather more broadly rounded.

This is a rather isolated species, at once distinguishable by its large eyes, strongly impressed front, sparse punctation and antennal structure.

**I. discolor** n. sp.—Elongate-elliptical, moderately convex, rather strongly shining, piceous-black, the antennæ and legs throughout concolorous; pronotum and prosternum pale ferruginous; pubescence fine, very short, sparse. *Head* feebly convex, closely, rather coarsely punctate, with a small elongate impression in the middle and just behind the epistoma; eyes rather small; antennæ filiform, fully two-thirds as long as the body. *Prothorax* about two-thirds wider than long, the apex truncate, two-thirds as wide as the base, the latter truncate, the lateral sinuations almost invisible; basal angles right, not appreciably rounded; sides broadly, almost evenly rounded, nearly straight and parallel toward base; disk rather coarsely, very closely punctured, the interspaces shining; basal foveæ small, rounded, distinct. *Elytra* a little more than three times as long as the prothorax, and, in the middle, about one-third wider, moderately narrowly rounded at apex; disk finely but deeply and distinctly, rather sparsely punctate, polished, without trace of impressed striae except the two sutural, which are feebly visible toward the apex. Under surface polished, finely and very sparsely punctate except the prosternum,

which is duller and densely punctured. *Legs* slender, moderate in length; first joint of the hind tarsi slightly longer than the last two combined.

*Male*.—Third antennal joint about two-thirds as long as the fourth; eyes separated by a little more than twice their own width.

Length 3.5–4.0 mm.; width 1.4–1.6 mm.

#### California.

This is our smallest species, and is very distinct in its coloration and sparse, coarse punctuation, as well as in antennal structure.

The head is distinctly shining, the comparatively wide interspaces of the punctures being polished. The abbreviated third joint of the antennæ is probably not altogether a sexual character.

**I. tenebrosa** n. sp.—Elongate-elliptical, strongly convex, extremely finely and densely punctate and pubescent, rather dull and subsericeous, piceous-black; legs and antennæ paler. *Head* feebly convex, the punctures densely crowded; eyes rather small; antennæ filiform, moderate in length, in the male scarcely more than one-half as long as the body; joints slightly shorter in the female. *Prothorax* about two-fifths wider than long, the apex more or less strongly arcuate, and generally continuous in curvature with the sides, the latter parallel and nearly straight toward base; basal angles slightly obtuse and rather distinctly rounded; base transverse, just visibly arcuate in the middle; disk very finely, extremely densely punctured, feebly impressed in the middle toward base, the basal foveæ broadly impressed along the margin, feeble. *Elytra* three times as long as the prothorax, and, at the middle, about one-third wider; sides evenly arcuate; humeri not exposed; apex gradually acutely rounded; disk punctured and clothed as in *sericea*, the two subsutural lines alone distinct toward apex. *Legs* normal.

*Male*.—Eyes separated by rather more than twice their width; third antennal joint slightly shorter than the fourth.

Length 4.4–4.8 mm.; width 1.9–2.0 mm.

#### New York (near the city and at Buffalo).

This species is quite slender, nearly similar in shape, and in its extremely dense punctuation, to *sericea*; it differs in its much smaller size, dark piceous-black color, shorter antennæ, slightly smaller eyes and still more decidedly in the form of the fourth joint of the maxillary palpi, which is here very slender, twice as long as, and not quite one-half wider than, the third, with the inner side three-fourths as long as the outer and much longer than the apex, the latter much less oblique and narrower than in any other species.

**I. sericea** Say.—Journ. Ac. Phil., III, p. 270.—Elongate-elliptical, rather strongly, evenly convex, feebly shining, pale ochreous-flavate throughout, the pubescence fine, dense, very short and subsericeous. *Head* dull, extremely

densely punctate, feebly, evenly convex; eyes moderate; antennæ long and slender, filiform, nearly two-thirds as long as the body, with the third and fourth joints equal in both sexes. *Prothorax* one-half wider than long, the sides rounded anteriorly, nearly straight and parallel in basal half; apex about two-thirds as wide as the base, feebly arcuate; base transverse, broadly, feebly arcuate in middle half, the angles right, not rounded; disk dull, punctured like the head, the basal foveæ shallow but rather distinct. *Elytra* nearly four times as long as the prothorax, and, in the middle, about one-third wider, between the narrowly rounded humeri very slightly wider than the thoracic base, rather acute at apex, the disk somewhat more shining than the anterior portions, but exceedingly densely, finely punctured, with three or four feeble impressed striæ near the suture, more strongly marked toward apex, the striæ where more deeply impressed becoming also very minutely punctate, elsewhere without trace of serial punctuation. Under surface decidedly more shining, the abdomen very minutely, feebly and densely punctate, the anterior portions more coarsely and rather densely so. *Legs* rather long, very slender; posterior tarsi a little shorter than the tibiæ, with the first joint three-fourths as long as the next three.

*Male*.—Eyes separated by three-fourths more than their own width; fifth ventral slightly longer and less truncate than in the female, more or less feebly impressed.

Length 4.8–5.5 mm.; width 1.9–2.3 mm.

Massachusetts; North Carolina.

The last joint of the maxillary palpi is about twice as long as the third, and about one-half wider, with the inner side one-half as long as the outer, the apex obliquely truncate. In the female the eyes are but slightly smaller than in the male, and the joints of the antennæ a very little shorter and thicker. This is the most abundant of our eastern species.

**I. variabilis** Horn.—Trans. Am. Ent. Soc., Sept. 1875, p. 156.—Oval, more or less robust and convex, sometimes slightly wider behind the middle, piceous-black or paler, dull, the elytra shining; pubescence fine, short and comparatively sparse. *Head* feebly, nearly evenly convex, very densely and rather finely punctate; eyes small; antennæ slender, filiform, one-half as long as the body. *Prothorax* about two-thirds wider than long, gradually narrowed from base to apex, the latter scarcely more than one-half as wide as the base, feebly arcuate; sides broadly rounded anteriorly; base transverse, the sinuations broad and very feeble; disk extremely densely and rather finely punctate, the basal foveæ broadly impressed and feeble. *Elytra* about three and one-half times as long as the prothorax, and, near the middle, from one-third to one-half wider, not very acutely rounded at apex; disk very finely, somewhat sparsely punctate, with scarcely a trace of impressed striæ except the two inner. *Abdomen* minutely, not densely punctate, the metasternum

coarsely and rather densely so, the prosternum dull, finely and very densely punctured. *Legs* slender, generally pale.

*Male*.—Eyes separated by about three times their width.

Length 4.3–5.9 mm.; width 1.8–2.3 mm.

California; Washington State.

In both male and female the third and fourth joints of the antennæ are long, slender and equal, and the joints throughout are but slightly shorter and thicker in the latter sex. The maxillary palpi are nearly as in *sericea*.

The large series before me is exceedingly heterogeneous, not only in color, but in general habitus, there being some specimens which are broad, short and strongly convex, with the prothorax large and at the base as wide as that of the elytra, and others which are comparatively narrow, elongate and depressed, with the prothorax much smaller. These differences seem to be independent of sex, and surely indicate a mixture of closely related but distinct forms, which the amount of material before me will not suffice to elucidate; especially as there is marked uniformity in the antennæ, sculpture and other structural characters throughout the series.

**I. luscitiosa** n. sp.—Rather narrowly oval, generally slightly broader behind, dull, the elytra shining, dark piceous-brown throughout, the anterior portions blackish; pubescence fine, short, moderately dense. *Head* feebly, evenly convex, very densely, rather coarsely punctate; eyes very small and unusually convex; antennæ slender, filiform, three-fifths as long as the body. *Prothorax* nearly three-fourths wider than long, the sides broadly rounded, almost straight and parallel toward base; apex about two-thirds as wide as the base, feebly arcuate; base transverse, the sinuations broad and very feeble; disk extremely densely punctate, the punctures rather coarse; basal foveæ widely impressed and feeble. *Elytra* about three times as long as the prothorax, and, at or behind the middle, nearly one-half wider, the two bases equal; apex rather abruptly but acutely rounded; disk finely but distinctly, not extremely densely punctate, without trace of impressed striæ or series except the usual two near the suture, which are fine but deep toward apex. *Abdomen* polished, very finely, rather sparsely punctate, the prosternum duller and denser, more coarsely so. *Legs* slender, moderate in length, the basal joint of the hind tarsi distinctly shorter than the remainder.

*Male*.—Third and fourth joints of the antennæ equal, each nearly twice as long as the second; eyes separated by about four times their own width.

Length 4.0–4.3 mm.; width 1.7–2.0 mm.

California (Los Angeles). National Museum.

The antennæ and maxillary palpi are nearly as in *sericea* and *variabilis*, from both of which this species is at once distinguishable

by its smaller size, coarser punctuation and much smaller, but at the same time more convex and prominent eyes.

It is represented by two specimens collected by Mr. Albert Koebele.

**I. pulla** Melsh.—Proc. Ac. Phil., III, p. 60.—Elliptical, convex, the elytra generally slightly wider behind, piceous-black throughout, the tarsi and sometimes the tibiæ, prosternum and a feebly marked narrow sutural line slightly testaceous; surface slightly shining, the pubescence very short and dense. *Head* finely, very densely punctate, the surface almost flat; eyes rather small; antennæ slender, about one-half as long as the body, the third and fourth joints subequal in both sexes. *Prothorax* about three-fourths wider than long, strongly narrowed from base to apex, the sides almost evenly arcuate; apex scarcely more than one-half as wide as the base, feebly arcuate; base transverse, scarcely visibly arcuate toward the middle, the angles right, not distinctly rounded; disk very vaguely and broadly impressed along the middle, sometimes only near the base, the punctures fine but deep, distinct, and almost in mutual contact; basal foveæ very feeble, short and extending slightly along the basal margin. *Elytra* but slightly more than three times as long as the prothorax, and, behind the middle, nearly two-fifths wider, at base equal in width to the thoracic base; apex moderately acute; disk punctured and with subsutural striæ nearly as in *sericea*, the punctures slightly coarser and a little sparser. Under surface rather shining, the abdomen very minutely, feebly and somewhat sparsely punctate. *Legs* nearly as in *sericea* but rather shorter.

*Male*.—Eyes separated by about three times their own width.

Length 4.9–5.3 mm.; width 2.1–2.3 mm.

Rhode Island; North Carolina.

The terminal joint of the maxillary palpus is rather short and robust, much less than twice as long as the penultimate, with the inner side nearly three-fourths as long as the outer. In this respect, as well as in the much smaller eyes, the present species is intermediate between *sericea* and *quadristriata*.

The antennæ do not differ greatly in the sexes, and are distinctly shorter and a little thicker than in *sericea*. As in nearly all the darker species the entire body is frequently paler from immaturity.

This species makes the nearest approach to the European *murina*, but has the pronotal punctuation distinctly coarser and less dense; in fact we have no species in which the punctuation of this part is so excessively fine and densely crowded as in *murina*.

**I. quadristriata** Coup.—The Canad. Nat., 1865, p. 62; *velutina* Lec.: N. Spec. Col., 1866, p. 139.—Rather broadly oval, strongly convex and shining, pale rufo-testaceous throughout, the anterior portions, antennæ or the

entire body sometimes darker, piceous; pubescence extremely short and rather sparse. *Head* feebly, evenly convex, densely punctate, rather shining; eyes small; antennæ filiform, about one-half as long as the body, with the third and fourth joints elongate and equal in both sexes. *Prothorax* nearly twice as wide as long, the apex rather wide, fully two-thirds as wide as the base, feebly arcuate; base transverse, very broadly and feebly arcuate toward the middle; sides rounded toward base, convergent and straighter toward apex; basal angles slightly obtuse and narrowly rounded; disk finely, deeply and more or less densely punctate, the interspaces sometimes nearly as wide as the punctures; basal foveæ almost completely obsolete. *Elytra* four times as long as the prothorax, near the middle about one-fourth wider, rather abruptly and narrowly rounded at apex; disk finely and deeply but quite sparsely punctate, with only the vaguest traces of impressed striæ except the two sutural, which become very pronounced toward apex. Under surface polished and rather sparsely, finely punctate throughout. *Legs* moderate in length, slender, nearly as in *sericea*.

*Male*.—Eyes separated by nearly three times their width, not appreciably differing in the female.

Length 5.0–5.8 mm.; width 2.1–2.8 mm.

Canada; Lake Superior; North Carolina.

A widely diffused and common northern species, distinguishable by its rather sparse punctuation and the sides of the prothorax more strongly rounded toward base, so that in some specimens the disk is distinctly widest before the base. The male is notably narrower than the female. The terminal joint of the maxillary palpi is broad, and the outer side is scarcely longer than the apex.

The single male which I took in North Carolina is decidedly shorter and broader than another male taken in Rhode Island, and the sides of the prothorax near the base much less rounded, in fact almost straight and parallel; it may possibly be a variety.

The disk of the prothorax is less convex toward the sides than in the species allied to *sericea*, and there are generally two feebly impressed discal foveæ and a feeble median impression near the base.

***I. monticola*** n. sp.—Elongate-oval, moderately convex, dark piceous-brown throughout and shining, the prothorax more rufous; pubescence very short, comparatively sparse on the elytra. *Head* small, not one-half as wide as the prothorax, broadly impressed near the epistoma, finely but strongly punctate, the punctures slightly separated; eyes small, separated by fully three times their width in the female; antennæ long, very slender, the third joint four-fifths as long as the fourth. *Prothorax* about four-fifths wider than long, broadly but distinctly arcuate at apex, the curvature nearly continuous posteriorly along the sides, the latter becoming parallel near the base, the basal angles not rounded; base transverse, the situations distinct; disk rather



strongly and densely punctate, the punctures a little larger than those of the head and quite distinctly separated; basal foveæ almost obsolete. *Elytra* nearly four times as long as the prothorax and scarcely wider than the latter, acutely ogival in apical third; sides subparallel; disk finely but strongly, quite sparsely punctate, without impressed lines or series, the two sutural however becoming very strong near the apex. *Abdomen* finely, rather sparsely punctate. *Legs* slender, the basal joint of the hind tarsi three-fourths as long as the remainder.

*Male*.—Unknown.

Length 7.0 mm.; width 2.9 mm.

California (Lake Tahoe).

This species is distinct in facies, resembling only *oblongula* in this respect. It differs however from *oblongula* in many characters besides those mentioned in the table, as may be inferred from the description. The single specimen appears to be a female, although it is impossible to state this definitely without dissection. From *quadristriata* it differs in its more elongate form, larger prothorax, which is much more nearly equal in width to the elytra, and in the shorter third joint of the antennæ.

**I. oblongula** n. sp.—Oblong, rather elongate and subparallel, convex, blackish piceous throughout, the legs and antennæ concolorous; tarsi slightly paler; suture feebly, narrowly rufescent; pubescence very short, dense, pale and conspicuous. *Head* feebly convex, finely, densely punctate, the punctures distinctly separated; eyes large; antennæ very slender, filiform, rather more than one-half as long as the body. *Prothorax* fully three-fourths wider than long, the apex subtruncate, scarcely two-thirds as wide as the base, the latter transverse, the lateral sinuations broad and almost obsolete; basal angles very slightly obtuse, not rounded; sides broadly arcuate throughout, more strongly so and convergent anteriorly; disk slightly wider at basal third than at base; convex, finely, extremely densely punctate, very feebly impressed in the middle near the base, the basal foveæ widely, feebly impressed and inconspicuous. *Elytra* fully four times as long as the prothorax, and, at the middle, about one-third wider, ogival at apex; humeri slightly and arcuately oblique externally, not at all exposed at base; sides very feebly arcuate; disk with rather distinct but very feebly impressed lines throughout the width, finely, densely punctate, without punctured series. *Abdomen* minutely, somewhat densely punctate, polished; propleuræ very sparsely so externally. *Legs* long and slender, normal.

*Male*.—Unknown.

Length 6.8 mm.; width 2.7 mm.

New York (Buffalo).

The single specimen is a female, and has the third joint of the antennæ twice as long as the second and three-fourths as long as

the fourth. The eyes are separated by scarcely one-third more than their own width. The fourth joint of the maxillary palpi is rather robust, the inner and outer sides making an angle at the base of nearly ninety degrees, the former about one-half as long as the latter, the outer side but slightly longer than the apex which is feebly arcuate.

There is no species here described which is closely allied to this, but the form of the maxillary palpi shows that it should be placed in the neighborhood of *quadristriata*.

**I. valida** Schz.—Pr. Am. Phil. Soc., XVII, 1878, p. 370.—Evenly elliptical, convex, shining, dark rufo-testaceous throughout; pubescence fine, rather short and dense. *Head* small, much less than one-half as wide as the prothorax, feebly convex, broadly impressed at the base of the epistoma, finely and not very densely punctate, the punctures separated by nearly their own widths; eyes very large; antennæ long and slender, filiform, nearly two-thirds as long as the body, with the third and fourth joints elongate and equal. *Prothorax* strongly narrowed from base to apex, about twice as wide as long; sides evenly rounded; apex three-fifths as wide as the base, feebly arcuate; base transverse, the sinuations extremely feeble; basal angles right, not distinctly rounded; disk finely but deeply punctate, the punctures distinctly separated, feebly impressed just before the scutellum; basal foveæ almost obsolete. *Elytra* nearly four times as long as the prothorax, and, at the middle, about one-fourth wider, gradually and rather acutely rounded behind, disk rather finely, densely punctate, with series of almost similar punctures which are completely unimpressed, except the two or three sutural toward apex. *Abdomen* finely, densely punctate; metasternum very sparsely so; propleuræ and prosternum again more densely so. *Legs* slender, the first joint of the hind tarsi very nearly as long as the remainder.

*Male*.—Eyes separated by scarcely two-thirds of their own width; fifth ventral segment but slightly longer than the fourth, scarcely more sparsely punctate, broadly subtruncate at apex and not impressed.

Length 7.0 mm.; width 3.3 mm.

Florida.

The terminal joint of the maxillary palpi is moderately wide, with the inner side but slightly more than one-half as long as the outer, the latter distinctly longer than the apex, the apical angle distinctly rounded.

This is one of the few tropical types which extend into our fauna from Central America, where they constitute a characteristic element of the genus. It is readily distinguishable by its unusually large eyes and completely unimpressed elytral series.

**I. texana** n. sp.—Oblong, the sides nearly straight and parallel in middle two-thirds, pale ochreous-testaceous throughout, rather shining; pubescence fine and dense. *Head* moderate in size, nearly one-half as wide as the prothorax, feebly convex, impressed at the base of the epistoma, finely and not very densely punctate; eyes large; antennæ very long and slender, filiform, two-thirds as long as the body, third and fourth joints slender, equal. *Prothorax* a little less than twice as wide as long, strongly narrowed from base to apex; sides strongly, almost evenly rounded, almost parallel in basal third; apex truncate, three-fifths as wide as the base, the latter transverse, the sinuation, on each side of the rather narrow median lobe, feeble but distinct; basal angles right, narrowly rounded; disk strongly convex, finely, densely punctate, the punctures slightly separated; basal foveæ almost obsolete. *Elytra* about three and one-half times as long as the prothorax, and, at the middle, not appreciably wider, rather abruptly, strongly rounded behind; disk comparatively coarsely, very densely punctate, with series of nearly similar close-set punctures, the series feebly impressed, especially strongly so toward apex throughout the width. *Abdomen* finely, rather sparsely punctate, the metasternum extremely sparsely, rather coarsely so, the propleuræ polished, finely, sparsely punctate throughout. *Legs* slender, the basal joint of the hind tarsi distinctly shorter than the remainder.

*Male*.—Eyes separated by their own width; fifth ventral segment nearly as in *valida*, but rather more rounded behind.

Length 7.7 mm., width 3.1 mm.

Texas.

This species is allied to *valida*, but easily distinguishable by its more oblong parallel form, longer prothorax, larger head, smaller and more distant eyes, more distinctly impressed elytral series, and more sparsely punctate abdomen.

The maxillary palpi are nearly as in *valida*, the last joint about twice as long, but scarcely twice as wide as the penultimate, the outer side about one-fourth longer than the apex, the inner side a little more than one-half as long as the outer.

### **TEDINUS** n. gen.

Mandibles distinctly notched at apex, the lobes subequal. Antennæ slender, filiform, the third joint shorter than the fourth, less conspicuously so in the female. Maxillary palpi with the fourth joint as in *Isomira*, rather slender, the angle at the base less than right, the inner side much shorter than the apex, the latter longer and more oblique in the male than in the female. Labial palpi with the third joint one-half longer than wide, the apex truncate, the truncation just visibly oblique. Anterior coxæ separated by a distinct longitudinally convex prosternal process, which attains the level of the coxal apices, very declivous behind. Tarsi not as long as the tibiæ, the basal joint of the posterior elongate, the anterior distinctly dilated in the male; ungues

moderate in length, very slender, the external side feebly, evenly arcuate, the internal pectinate in apical two-thirds, the denticles very fine, short, five or six in number. Genital armature of the male deeply bilobed.

This genus while more closely allied to *Isomira* than to any other here noticed, possesses also many elements suggestive of *Capnochroa* and *Andrimus*, especially the general form of the body, and the dilated anterior tarsi of the male. The coarser sculpture of the upper surface and slightly exposed humeri, are also characters reminding us of *Andrimus*, while the form of the head and tendency to obliteration of the elytral striæ are characteristic of *Isomira*. The genital armature of the male is similar to that of the latter genus.

I have seen only a single species which may be defined as follows :

**T. angustus** n. sp.—Elongate-oval, rather convex, polished and pale brownish-castaneous throughout; pubescence short, coarse, subrecumbent, with a few short erect hairs especially toward apex, not dense. *Head* somewhat finely but deeply, moderately densely punctate; eyes rather small; antennæ slender and filiform in both sexes, the joints slightly shorter and more obconical in the female than in the male. *Prothorax* one-half wider than long, the apex subtruncate, just visibly arcuate, two-thirds as wide as the base, the latter transverse, the sinuations broad and extremely feeble; angles right not at all blunt; sides broadly arcuate anteriorly, becoming nearly parallel and straight in more than basal half; disk feebly convex, quite coarsely, deeply and densely punctate, with an elongate-oval impression just before the scutellum; basal foveæ broad but distinct. *Elytra* about four times as long as the prothorax and one-fourth wider, feebly dehiscent very near the apex, gradually, acutely ogival behind; sides parallel and nearly straight in basal two-thirds; humeri obliquely rounded externally to the prothorax; disk with series of small approximate punctures, which are obliterated and confused with those of the intervals except toward the suture, the series extremely feebly impressed externally but deeply so throughout the length near the suture; intervals coarsely, confusedly and rather densely punctate, the punctures as large as those of the series. *Abdomen* minutely, rather sparsely punctate. *Legs* rather short and robust, the basal joint of the hind tarsi nearly as long as the remainder.

*Male*.—Eyes separated by one-half more than their own width; antennæ three-fifths as long as the body, the third joint short, less than two-thirds as long as the fourth; anterior tarsi distinctly dilated, the intermediate sub-dilated; fifth ventral segment truncate at apex, the truncation broadly, feebly sinuate throughout; genital armature deeply bilobed, the lobes sparsely setose.

*Female*.—Eyes separated by three-fourths more than their own width; antennæ one-half as long as the body, the third joint fully three-fourths as long as the fourth; anterior tarsi simple; genital armature not visible in the type.

Length 5.5–6.0 mm.; width 2.0–2.1 mm.

Georgia (St. Catharine Island). National Museum.

Easily known by its elongate narrow form, coarse punctuation and pubescence, and indistinct elytral series toward the sides. Two specimens.

**ANDRIMUS** n. gen.

*Ctenopus* Lec. nec Sol.

The principal characters of this genus may be stated as follows:—

Front not noticeably prolonged. Antennæ differing in the sexes, much longer, more broadly compressed, and with the joints more strongly obconical in the male, filiform in the female, the third joint much shorter than the fourth in both sexes. Eyes moderate in size, but convex and prominent, the inner margin very broadly rounded. Maxillary palpi with the fourth joint rather slender, the angle at the base much less than right, the inner side distinctly shorter than the apex, slightly more robust in the male, with the apex longer and sometimes nearly as long as the outer side. Labial palpi with the third joint slender, twice as long as wide, the apex truncate and but slightly oblique. Mandibles truncate at apex, the truncation slightly oblique and very obsoletely, broadly emarginate, the upper lobe twice as wide as the lower, longer and more advanced. Anterior coxæ separated by a process similar to that of *Cistela* but a little narrower, the posterior separated by a slender acute abdominal process. Legs rather short, the tarsi shorter than the tibiæ, the anterior feebly dilated in the male; unguis rather long and slender, with five or six denticles in apical two-thirds only, the basal third not pectinate. Genital armature distinct in both sexes, broadly sinuato-truncate at apex in the male, more narrowly and deeply sinuate in the middle in the female.

In the form of the mandibular apices this genus is intermediate between *Cistela* and *Androchirus*, but differs from both in the much feebler emargination. In its slightly dilated anterior tarsi of the male it is between *Capnochroa* and *Tedinus*. In the form of body in many of the species, which is oblong-oval, subparallel and but feebly convex in a longitudinal direction, in the aspect of the head, and in the general nature of the sculpture and vestiture it strongly resembles *Mycetochara*.

The elytra are generally abruptly wider at base than the prothorax, and are gradually, narrowly dehiscent toward apex from near the middle; the surface is striato-punctate and the pubescence is quite peculiar, consisting of longer erect hairs, with others that are shorter and more recumbent. In this last character *Andrimus* differs radically from *Cistela*, but in *Capnochroa* it is feebly indicated by viewing the elytra tangentially, when the surface will be found to be sparsely strewn with short erect hairs in addition to

the ordinary subrecumbent pubescence. In the form of the genital armature this genus differs greatly from any of those allied to *Cistela*, for in the male this part is not at all bilobed, and, what is still more exceptional in the family, it is more strongly sinuate at apex in the female than in the male; it is almost equally exposed and prominent in both sexes.

This genus differs from the European *Cteniopus* in having the anterior coxæ more widely separated, in the short third antennal joint, in its unextended front, and in the longer basal joint of the hind tarsi.

*Andrimus* will probably prove to be a moderately large genus in our Gulf States, but the species are rather closely allied among themselves, and may be difficult to discriminate from description, especially as there is nearly always more plasticity and specific variability in the genera with non-lobed tarsi, than in the others. The material which I have examined indicates five species, apparently without much doubt; these may be distinguished by the following characters:—

- Basal angles of the prothorax prominent laterally.....**murrayi**  
 Basal angles not prominent.  
 Humeri very narrowly exposed at base.....**brunneus**  
 Humeri widely exposed at base.  
 Basal pronotal foveæ almost obsolete.....**concolor**  
 Basal foveæ small but deep and distinct.  
 Eyes in the male separated by their own width.....**nigrescens**  
 Eyes in the male separated by distinctly less than their own width.  
**convergens**

**A. murrayi** Lec.—New Spec. Col., 1866, p. 141 (*Cteniopus*).—Oblong-oval, shining and rather pale piceous-brown throughout; pubescence rather long, semi-erect and sparse on the elytra. *Head* nearly flat above, with a transversely oval, deep impression involving the base of the epistoma and margin of the front; surface rather finely but deeply, somewhat densely punctate, the punctures all distinct; eyes separated by their own width, bordered internally by a fine groove; antennæ scarcely one-half as long as the body, slender, filiform, the third joint much more than twice as long as the second and fully three-fourths as long as the fourth. *Prothorax* three-fifths wider than long, rather campanulate in form, the basal angles right but distinctly prominent laterally, the sides before them at first feebly sinuate then nearly straight and parallel to anterior two-fifths, then strongly rounded to the apex which is truncate and two-thirds as wide as the base, the latter transverse, the sinuations rather narrow and feeble; disk almost evenly convex, finely, sparsely punctate, with a narrow impunctate median line; basal foveæ small

but distinct. *Elytra* between four and five times as long as the prothorax, and, at the middle, about one-half wider, strongly dehiscent in apical third, ogival at apex; sides parallel, feebly arcuate, the humeri strongly rounded to the base of the prothorax and somewhat widely exposed; disk with series of rather small, close-set punctures, the rows almost completely unimpressed, except feebly near the suture; intervals finely, sparsely, confusedly punctate. *Abdomen* minutely, extremely sparsely punctate. *Legs* rather short and moderately slender, the tarsi all much shorter than the tibiæ, the basal joint of the posterior a little shorter than the remainder. Length 9.8 mm.; width 3.7 mm.

Florida. Cab. LeConte.

The description is taken from the unique female type, and I have seen no other specimen which can be placed with it.

The lateral prominence of the basal angles of the prothorax is a character which is probably quite variable in degree, and has been noticed by Champion in one of the Central American species of *Lobopoda*.

The type is the largest specimen of the genus which I have seen. The genital armature is narrowly and rather deeply sinuate in the middle at apex, the sinus and apices being about equal in curvature. The fifth ventral segment has, near the apex, a deep transversely oval, abruptly limited excavation.

**A. brunneus** n. sp.—Brown, polished throughout, strongly convex, sparsely pubescent. *Prothorax* from one-third (male) to one-half (female) wider than long, the sides parallel and straight in basal two-thirds, then rounded to the apex; disk evenly convex, finely but deeply, rather sparsely punctate, without an impunctate median line except near the base; basal foveæ almost completely obsolete.

*Male*.—*Elytra* four times as long as the prothorax, and, in the middle, about one-third wider, the humeri very narrowly exposed at base; eyes separated by their own width; antennæ two-thirds as long as the body, the joints rather strongly obconical, a little more than twice as long as wide, the third one-half longer than wide and about one-half as long as the fourth; anterior tarsi quite distinctly dilated, subequal in length to the tibiæ, the basal joint nearly as long as the next two combined; fifth ventral segment short and broad, not longer than the fourth, very broadly, evenly rounded at apex, the surface not at all impressed; genital armature finely punctate, broadly truncate at apex, the truncation broadly, very feebly, evenly sinuate throughout, the angles obtuse and distinct but slightly rounded; intromittent organ long and very slender.

*Female*.—*Elytra* distinctly more than four times as long as the prothorax, and, behind the middle, nearly one-half wider, the humeri very narrowly exposed at base; eyes separated by slightly more than their own width; antennæ rather more than one-half as long as the body, slender and filiform,

the third joint nearly twice as long as wide and three-fifths as long as the fourth; anterior tarsi slender, much shorter than the tibiæ; fifth ventral segment short, broadly arcuate at apex, the surface broadly, indefinitely impressed; genital armature sinuate at apex, the lateral angles broadly rounded.

Length 7.3–8.5 mm.; width 2.6–3.2 mm.

Florida (Haulover). Mr. Schwarz. National Museum.

When compared with the female of *murrayi*, the corresponding sex of this species differs in its longer antennæ with shorter third joint, in the less exposed elytral humeri, in the widely diffused impression of the fifth ventral segment, in the broader, feebler median sinuation of the genital armature, and in its smaller size. The elytra of *murrayi* are more strongly dehiscent toward apex, and have the sides parallel, so that they are widest at about the middle, while in the present species they are subinflated behind the middle, the sides being more convergent toward base.

**A. concolor** n. sp.—Oblong-oval, rather strongly depressed, brown and polished throughout; pubescence sparse.

*Female*.—Head rather strongly and densely punctate, with a distinct median longitudinal sulcation; eyes moderate, separated by fully two-fifths more than their own width; antennæ scarcely one-half as long as the body, slender, filiform, the third joint but slightly longer than the second and one-half as long as the third. *Prothorax* one-half wider than long; sides parallel and nearly straight in basal three-fifths, then somewhat abruptly convergent and feebly arcuate to the truncate apex; basal sinuations very feeble, the broadly rounded median lobe more prominent posteriorly than the lateral portions; basal angles right and distinctly blunt; disk almost evenly but feebly convex, with a very imperfectly defined median impunctate line, very finely, sparsely punctate, the basal foveæ almost obsolete. *Elytra* fully four times as long as the prothorax and about one-half wider, rather obtusely ogival in apical third and gradually strongly dehiscent; sides parallel and very feebly arcuate behind, straight toward base, the humeri rather broadly exposed; disk rather strongly flattened toward the suture, the first three or four striæ distinctly impressed; strial punctures fine; intervals finely, unevenly and sparsely punctate. *Abdomen* very minutely, extremely sparsely punctate. *Legs* rather short, the tarsi about as long as the tibiæ; basal joint of the posterior quite distinctly shorter than the remainder. Fifth ventral segment short, broadly, indefinitely but strongly impressed; genital armature sinuate in the middle, nearly as in *brunneus*.

Length 8.5 mm.; width 2.9 mm.

Georgia.

This species is distinguishable at once from *murrayi* by the very short third antennal joint of the female, and from *brunneus* by its much narrower, more depressed form and smaller eyes of the same



sex. There is before me a male which should apparently be associated with the female type above described, being depressed and nearly similar in size and outline. The pronotum of this specimen is strongly alutaceous and dull, and has two extremely large and deep discal foveæ, probably of an accidental nature; the antennæ are but slightly more than one-half as long as the body, but stout, compressed, with the joints much more strongly obconical, the third joint scarcely one-half as long as the fourth.

**A. nigrescens** n. sp.—Oblong-oval, rather strongly convex, piceous-black throughout, the antennæ black; tarsi rufescent; integuments shining; pubescence sparse.

*Male*.—Head rather finely but deeply, very densely punctate; eyes prominent, separated by their own width; antennæ long, stout, strongly compressed, fully two-thirds as long as the body and subequal in length to the elytra, joints strongly obconical, scarcely more than twice as long as wide, the third a little longer than wide and less than one-half as long as the fourth. *Prothorax* rather long and subquadrate, one-third wider than long; sides parallel and straight in basal two-thirds, then evenly, strongly rounded to the truncate apex; base transverse, the sinuations narrow and feeble; basal angles right, blunt; disk rather convex, finely punctate, the punctures sparse but denser toward the middle anteriorly, with a feeble impunctate line toward base; basal foveæ small and distinct. *Elytra* unusually short, twice as long as wide, one-half wider and not quite four times longer than the prothorax, narrowly, gradually dehiscent from the middle, the sides in basal two-thirds parallel and feebly arcuate; humeri broadly exposed at base; disk with rows of rather small punctures, deep and conspicuous except toward the sides, where they become very fine, the striæ more or less strongly impressed throughout the width; intervals finely, confusedly and not very sparsely punctate. *Abdomen* wanting in the type. *Legs* rather short, the anterior tarsi dilated, the posterior scarcely three-fourths as long as the tibiæ, with the basal joint much shorter than the remainder. Length 8.0 mm.; width 3.0 mm.

Florida. Mr. Jülich.

The principal differences between this species and the male of *brunneus* reside in the broader, relatively longer and more compressed antennæ, which are black in *nigrescens* and pale brown in *brunneus*, in the broader, relatively shorter elytra and much shorter tarsi. In the male of *brunneus* the hind tarsi are very nearly as long as the tibiæ. From the male of *concolor* it differs in its convex form and much longer antennæ. With the female type of *murrayi* it has very little in common.

**A. convergens** n. sp.—Rather slender, moderately convex, piceous; legs and elytra dark brown; integuments polished throughout; pubescence sparse.

*Male*.—Head somewhat concave between the eyes, rather coarsely, sparsely and unevenly punctate; eyes somewhat large, separated by three-fourths of their own width; antennæ moderately stout and very feebly compressed, two-thirds as long as the body, the joints distinctly more than twice as long as wide, the third one-half as long as the fourth. *Prothorax* scarcely one-half wider than long, slightly wider at anterior third than at base, the sides from that point feebly convergent and straight to the basal angles, the latter right and narrowly rounded; base transverse and straight in middle half, feebly posteriorly oblique laterally; apex truncate, two-thirds as wide as the base, the sides in apical third rather strongly convergent and feebly arcuate; disk rather finely, sparsely, somewhat unevenly punctate, with an impunctate median line; basal foveæ small but deep and very conspicuous. *Elytra* two-fifths wider than the prothorax and rather more than four times as long; sides parallel; humeri rather broadly exposed at base; disk punctate and striate as in *concolor*. *Abdomen* minutely and very sparsely punctate throughout. *Legs* somewhat short; all the tarsi distinctly shorter than the tibiæ, the anterior subdilated, the basal joint of the posterior two-thirds as long as the remainder. Fifth ventral segment but slightly longer than the fourth; broadly rounded behind, the genital armature broadly sinuato-truncate at apex. Length 7.3 mm.; width 2.5 mm.

New York.

The specimen before me is labeled as above, but there is more or less doubt concerning such a northern habitat. The species is quite distinct from the others in the decidedly larger eyes of the male, and the sides of the prothorax convergent and straight from before the middle to the base, also in its minute but unusually deep basal foveæ of the pronotum.

#### CAPNOCHROA Lec.

This is also an exclusively American genus, and is represented in our fauna as far as known by a single large and interesting species. It is not very closely related to *Cistela*, although the mandibles are notched at apex and subequally bilobed as in that genus. The sexual characters differ greatly, and the anterior tarsi instead of being strongly compressed and distorted—when modified at all in the male—are here long and slender, and feebly flattened or just visibly dilated, with the basal joint as long as the next two together, in this character approaching *Andrimus* (*Cteniopus* Lec.) and *Tedinus*.

In the great development of the lobes of the male genital armature, it resembles *Androchirus* and differs completely from *Andrimus*. The unusually composite nature of *Capnochroa* will therefore be recognized at once.

The maxillary palpi differ somewhat conspicuously in the sexes, the fourth joint being more elongate in the male, with the inner side much shorter than the apex; in the female the inner side is subequal to the apex. Less marked sexual differences in the palpi are observable also in some other genera, such as *Isomira* and the European *Cteniopus*, this character apparently being especially developed in the genera with simple tarsi.

Some of the Central American species assigned to *Cistela* by Mr. Champion, are said to have the anterior tarsi more or less dilated, and these may possibly find a more fitting place as a separate genus allied to the present one, but differing in the serrate antennæ. *Cistela fragilicornis* should, almost undoubtedly, be placed in *Capnochroa*.

**C. fuliginosa** Melsh.—Proc. Ac. Phil., III, 1846, p. 59.—Elongate-elliptical, strongly, very gradually pointed behind, moderately convex, dark piceo-castaneous throughout, dull, the elytra polished; pubescence extremely short, dense on the pronotum, sparse on the elytra. *Head* finely, rather densely punctured, the eyes moderate; antennæ long, rather slender, feebly compressed, filiform. *Prothorax* from three-fourths wider, to nearly twice as wide as long, the apex less than one-half as wide as the base, truncate; base transverse, broadly, rather feebly bisinuate, the basal angles right; sides parallel and nearly straight in basal half, then very strongly convergent and broadly arcuate to the apex; disk very feebly convex, more or less explanate laterally, very finely but strongly, densely punctate, the punctures distinctly but narrowly separated; basal foveæ small but distinct. *Elytra* feebly, gradually dehiscant toward apex, rather more than four times as long as the prothorax, and, in the middle, quite distinctly wider, very gradually acute behind, each elytron narrowly rounded at tip; sides broadly, feebly arcuate, the humeri obliquely rounded to the base of the prothorax; disk with fine, deeply impressed series of moderately fine distinct punctures, the intervals convex, minutely and not very closely, confusedly punctate. *Abdomen* polished, minutely, rather sparsely punctate, somewhat more closely so toward the middle in the male. *Legs* and tarsi long, very slender in both sexes, the basal joint of the posterior as long as the remainder.

*Male*.—Eyes separated by just visibly less than their own width; antennæ two-thirds as long as the body, the fourth joint fully twice as long as the two preceding together, third slightly longer than wide; anterior tarsi longer than the tibiæ, extremely feebly dilated, densely clothed beneath with short flavate hairs which bristle laterally in the form of fimbriæ; fifth segment with a rather small median sinuation which is much wider than deep, the edge bordering it strongly inflexed; genital armature deeply bilobed, the lobes large, long, flattened, slightly twisted but not bent downward, excavated along their inner face, their apices rounded.

*Female*.—Broader than the male, less acute behind; eyes separated by one-third more than their own width; antennæ one-half as long as the body, the third joint more than twice as long as the second and two-thirds as long as the fourth; anterior tarsi slender, not quite as long as the tibiæ; fifth ventral segment broadly impressed, the apex very feebly, narrowly sinuate, the genital armature truncate at apex, with the angles broadly rounded.

Length 10.0–12.0 mm.; width 3.9–4.7 mm. ♂ ♀.

New York; Virginia.

This species is rather abundant and apparently not subject to great variation.

### CISTELA Fab.

*Chromatia* Lec.—Sm. Misc. Coll., III, p. 244.

This genus is at present quite composite, but the species here referred to it agree in having the antennæ more or less compressed, always distinctly serrate internally, with the third joint very short in both sexes, but decidedly longer in the female than in the male, and the fourth joint of the maxillary palpi somewhat slender, with the angle at the base less than right.

The genital armature is more or less truncate or feebly sinuate in the female, as is usually the case throughout the family, and is deeply bilobed in the male, the two lobes sublunate and long, but scarcely attaining the development or densely corneous structure seen in *Capnochroa* and *Androchirus*.

The punctuation and pubescence as a rule are extremely dense, the latter very short and more or less inconspicuous; the punctures are, however, much sparser in the aberrant *amæna*. The latter species forms the type of the genus *Chromatia* of LeConte, but the difference in the form and prominence of the genital armature, "the sixth ventral segment being prominent and deeply excavated in the male," upon which it was separated, does not of itself appear to be sufficiently decisive.<sup>1</sup> It is quite true that *amæna* differs greatly from *brevis* in general facies and sculpture, but *marginata* is a satisfactory intermediate in many of its characters in spite of its much larger size, and it does not seem proper to admit the generic validity of *amæna* without granting that of *marginata* and also the Central American *nigricornis*, a specimen of which is before me,

<sup>1</sup> Note the extraordinary diversity in the male sexual characters of this genus as exemplified by *C. brevis* and the closely related *C. theveneti*.

and which is more closely allied to *amœna* than to any species of the *brevis* group.

Our species are comparatively few in number and may be distinguished by the following table:—

Form oval or elliptical, rather strongly convex, the sides of the elytra more or less evenly continuous with those of the prothorax.

Femora red.

Broadly oval, the punctuation excessively minute; antennæ in the male distinctly shorter than the body.....**brevis**

Narrowly oval, the punctuation not so minute and quite distinct on the head and pronotum under low power; male antennæ nearly as long as the entire body.....**theveneti**

Femora black.

Third antennal joint of the female three times as long as the second; prothorax nearly twice as wide as long.....**pinguis**

Third joint in the female barely twice as long as the second; prothorax distinctly less than twice as wide as long.....**opaca**

Form oblong or oblong-elongate, the sides of the elytra straighter and not evenly continuous with those of the prothorax.

Large species, the antennæ long and unusually slender; prothorax much less than twice as wide as long.....**marginata**

Smaller species; antennæ very stout, shorter, strongly compressed; prothorax short, more than twice as wide as long; punctuation of the upper surface unusually sparse.....**amœna**

**C. brevis** Say.—Journ. Ac. Phil., III, 1823, p. 269; *erythroptera* Ziegl.: Proc. Ac. Phil., II, 1844, p. 46; *rufipes* Melsh.: Cat. No. 518.—Elliptical, rather strongly convex, feebly shining, alutaceous; black throughout, the legs and sometimes the entire elytra pale rufo-ferruginous; entire upper surface excessively minutely, densely punctate. *Head* narrowly impressed along the middle; eyes moderate; antennæ stout, strongly serrate internally. *Prothorax* rather large, one-half to two-thirds wider than long; apex truncate, one-half as wide as the base, the latter transverse, broadly, strongly bisinuate; sides strongly convergent from base to apex, broadly, evenly arcuate; disk unimpressed in the middle. *Elytra* nearly four times as long as the prothorax, and, in the middle, quite distinctly wider, the sides very feebly arcuate and subcontinuous with those of the prothorax, the humeral callus not quite as prominent laterally as in *pinguis*; disk finely but deeply striate, the striæ finely but rather distinctly punctate; intervals broadly, very feebly convex. *Abdomen* shining, finely, rather densely punctate. *Legs* slender, the basal joint of the hind tarsi as long as the remainder.

*Male*.—Eyes separated by slightly but distinctly more than their own width; antennæ three-fourths as long as the body, joints nearly three times as long as wide, third very short, not quite as long as wide, oblique at apex, fourth twice as long as the two preceding together; anterior tarsi compressed, compact, the fifth joint thickened toward base, strongly bent; fifth ventral segment

with a large deep angulate emargination, extending almost to the base of the segment, the anterior half of the emargination filled with a depressed concave coriaceous plate, which is broadly sinuate posteriorly; supplementary segment deeply bilobed.

*Female*.—Eyes separated by nearly one-half more than their own width; antennæ one-half as long as the body, the joints scarcely more than twice as long as wide, the third twice as long as the second, much longer than wide and one-half as long as the fourth; anterior tarsi normal, slender; fifth ventral segment entire, sparsely punctate, broadly feebly impressed in the middle.

Length 7.5–9.0 mm.; width 3.3–4.4 mm.

Pennsylvania; Virginia; Indiana.

The longitudinal convexity of this species is rather greater than usual, and the punctuation is much more minute than in any other of our species. It will be noticed that the male modification of the anterior tarsi is of precisely the same nature as that of *Androchirus*. The occasionally pale elytra of this species is a character similar to that observed in *Agriotes fucosus*; it does not depend in any way upon the sex of the individual.

**C. theveneti** Horn.—Trans. Am. Ent. Soc., Sept., 1875, p. 156.—Elongate-oval, rather strongly convex, piceous-black; femora red, the tibiæ and tarsi infusate; lustre dull. *Head* very small, flattened above, finely but strongly, extremely densely punctate, the punctures in mutual contact; eyes very small, separated in the male by distinctly more than twice their width; antennæ in the male nearly as long as the body, the fourth joint almost twice as long as the two preceding together, much shorter in the female, with the fourth joint just visibly longer than the two preceding combined. *Prothorax* about one-half wider than long, the sides broadly, evenly arcuate, strongly convergent from base to apex, the latter narrow and truncate; base transverse, broadly, distinctly bisinuate; disk finely, excessively densely punctate, the punctures closely crowded, the lustre dull. *Elytra* scarcely more than three times as long as the prothorax, and, in the middle, but slightly wider; sides parallel, feebly arcuate, continuous in curvature with those of the prothorax; disk finely, distinctly striate, the striæ not very coarsely or closely punctate, the intervals feebly convex, minutely, extremely densely punctate. *Abdomen* more shining, finely, feebly, rather densely punctate. *Legs* slender, the basal joint of the hind tarsi four-fifths as long as the remainder. Length 6.5–8.5 mm.; width 2.7–3.4 mm.

California (Sierras).

Easily distinguishable by its narrow convex form and bright red femora, as well as the unusually elongate male antennæ. The elytral intervals appear to be much more strongly convex in the male than in the female; in the latter sex they are quite flat.

This species differs remarkably from *brevis* in the male sexual

characters, the fifth segment in that sex being obtusely subangulate at apex, without the slightest trace of the emargination which is so extremely developed in *brevis*. There can be no doubt that the specimen before me is a male, as the intromittent organ is well protruded and the genital armature is deeply bilobed, the lobes acute and tufted with coarse setæ at apex. This abrupt and radical difference in the nature of the male sexual modification in two species otherwise so similar, is quite unexpected. The anterior tarsus in the male of *theveneti* is normal and not at all modified, with the basal joint fully one-half as long as the remainder.

**C. pinguis** Lec.—Smith. Cont. Knowl., XI, 1859, p. 16 (Xystropus).—Rather robust, oval, convex, intense black throughout; lustre rather dull and strongly alutaceous. *Head* small, feebly convex, finely, densely punctate, the punctures all distinctly separated; eyes small, separated by fully twice their width; antennæ scarcely one-half as long as the body, very stout, compressed, serrate, the intermediate joints one-half longer than wide, the third three times as long as the second and three-fourths as long as the fourth. *Prothorax* short, nearly twice as wide as long, the apex truncate, fully one-half as wide as the base, the latter transverse, broadly, rather strongly bisinuate; sides convergent and rather strongly, evenly arcuate from base to apex, becoming almost parallel near the base; disk not impressed, minutely but deeply, very densely punctate, the punctures distinctly separated. *Elytra* about four times as long as the prothorax, and, in the middle, about one-third wider; sides parallel and distinctly arcuate, especially behind, subcontinuous with those of the prothorax, the humeral callus slightly longitudinally prominent; disk finely but rather strongly striate, the striæ finely but distinctly, rather closely punctured, the intervals flat, minutely, feebly, densely punctate. *Abdomen* minutely, evenly, rather closely punctured. *Legs* moderate, slender, the basal joint of the hind tarsi equal in length to the remainder. Length 8.5 mm.; width 4.0 mm.

New Mexico. Cab. LeConte.

This species which is represented only by the female is allied rather closely to *brevis*, but is distinguishable by the black legs, much shorter, more transverse prothorax and smaller eyes.

**C. opaca** Lec.—Proc. Ac. Phil., 1859, p. 78.—Elongate-oval, intense black throughout, dull and alutaceous. *Head* moderate, nearly flat above, finely, densely, deeply punctate, the punctures all distinct; eyes small, separated by twice their width; antennæ stout, compressed, strongly serrate internally, scarcely more than one-half as long as the body, the fourth joint slightly longer than the two preceding together. *Prothorax* fully two-thirds wider than long; sides strongly convergent from base to apex and strongly, evenly arcuate, the apex truncate and less than one-half as wide as the base, the latter

transverse and broadly bisinuate; disk minutely, extremely densely punctate, the punctures not in mutual contact. *Elytra* but little less than four times as long as the prothorax, and, in the middle, about one-third wider; sides arcuate and continuous with those of the prothorax; disk finely but distinctly striate, the striæ rather abruptly impressed, finely punctate, the intervals flat, minutely, very densely punctate. *Abdomen* shining, finely, more sparsely punctate. *Legs* moderate in length, very slender, the basal joint of the hind tarsi three-fourths as long as the remainder. Length 8.5–10.0 mm.; width 3.8–4.3 mm.

California (Coast mountains).

The specimens before me appear to be all females. It is distinguishable from *theveneti* by its larger size, broader form, shorter antennæ, shorter, broader prothorax and black legs.

**C. marginata** Ziegl.—Proc. Ac. Phil., II, 1844, p. 46.—Elongate-oval, rather feebly convex, piceous-black, the entire margin of the pronotum broadly, and of each elytron except the base, narrowly, prosternum and abdomen pale rufo-ferruginous; antennæ black; legs dark rufo-piceous; lustre rather dull; pubescence unusually long and distinct, pale ochreous. *Head* rather large, feebly convex, extremely minutely, rather densely punctate, the punctures separated; eyes moderate, separated by three-fourths more than their own width; antennæ long and slender, a little more than one-half as long as the body, the joints distinctly serrate internally, more than three times as long as wide, the third twice as long as the second and three-fifths as long as the fourth. *Prothorax* one-half wider than long, the apex truncate, one-half as wide as the base, the latter transverse, broadly, rather feebly bisinuate; sides evenly convergent and broadly arcuate from base to apex; disk rather strongly depressed above, feebly, narrowly canaliculate throughout along the middle, minutely, extremely densely punctate, the interspaces shining. *Elytra* fully five times as long as the prothorax, and, in the middle, fully one-half wider, gradually ogival in rather less than apical third; sides thence parallel and very nearly straight to the humeri, which are abruptly, strongly rounded to the base of the prothorax and rather broadly exposed; disk very finely, feebly striate, the striæ extremely finely, inconspicuously punctate, the punctures narrow and sublinear; intervals nearly flat, minutely, very densely punctate. *Abdomen* rather more shining, minutely, rather closely punctate. *Legs* slender, normal. Length 12.5 mm.; width 4.5 mm.

Pennsylvania. Cab. LeConte.

This species, which is represented as far as I know by the unique type, is exceedingly distinct and widely isolated from any of our other species by its finely canaliculate prothorax and long elytra, with rounded exposed humeri. It may have to be generically separated, but in the condition of knowledge of the exotic forms, this cannot now be appropriately done. The type appears to be a female.



**C. amœna** Say.—Journ. Ac. Phil., III, 1823, p. 268 (Chromatia Lec.).—Oblong-oval, rather depressed, black and polished throughout, the prothorax, under surface and legs pale rufo-testaceous; pubescence extremely short, fine, rather sparse and inconspicuous. *Head* rather strongly, longitudinally impressed in the middle toward base, minutely, strongly, rather densely punctate, the punctures distinctly separated; eyes moderate, separated by at least one-third more than their own width; antennæ very stout and compressed, rather less than one-half as long as the body, serrate, the joints distinctly longer than wide, third joint nearly twice as long as the second and rather more than one-half as long as the fourth. *Prothorax* short, transverse, rather more than twice as wide as long, the apex truncate in the middle, broadly rounded thence laterally along the sides, the latter becoming more or less feebly divergent and feebly arcuate from apical third to the basal angles, the latter right; base transverse, the sinuations very small, narrow and feeble; disk more or less explanate laterally, feebly impressed in the middle near the base and in the position of the basal foveæ, minutely and rather sparsely punctate. *Elytra* four times as long as the prothorax, and, at or behind the middle, quite distinctly wider than the latter, rather obtusely ogival at apex; sides subparallel, very feebly arcuate, not quite continuous with those of the prothorax, the humeri obliquely rounded externally; disk with rather coarse, deeply impressed striæ of distinct, close-set punctures, the intervals feebly convex, finely but strongly, densely and very distinctly punctate. *Abdomen* minutely, feebly, rather sparsely punctate; propleuræ excessively finely, sparsely so. *Legs* decidedly short, rather robust; basal joint of the hind tarsi distinctly shorter than the remainder.

*Male*.—Similar to the female in form and size; antennæ much stouter, a little more than one-half as long as the body, the joints but slightly longer than wide, the third extremely short, wider than long, similar to the second and scarcely more than one-fourth as long as the fourth; eyes separated by one-fourth more than their own width; anterior tarsi a little thickened or subdilated toward base, with the basal joint nearly as long as the next two combined; fifth ventral short, broadly truncate at apex, with a broad shallow median canaliculation which becomes wider toward apex; genital armature deeply bilobed, the lobes lamelliform, moderate in length.

Length 6.8–7.8 mm.; width 2.6–3.4 mm.

New York; Kentucky; Indiana.

The above description refers to the female. In one specimen the elytra are colored exactly as in *marginata*, each elytron being surrounded completely, except at base, with a fine testaceous margin. This species will assuredly be considered the representative of a subgenus when the entire genus can be investigated, but at present there are no better grounds for separating it than in the case of *marginata*, or the Central American *nigricornis*, the latter being quite closely allied to *amœna* in its short legs and form of the prothorax.

**ANDROCHIRUS** Lec.

A few large, strongly, longitudinally convex species alone constitute this genus, which seems to be exclusively North American. It is quite closely allied to *Cistela*, but sufficiently well distinguished by the great inequality of the mandibular lobes, long filiform antennæ, and greater posterior prolongation of the acute thoracic angles, the latter being much more marked in the female than in the male.

The legs and antennæ are long and slender. The terminal joint of the maxillary palpi is rather slender, triangular, with the very oblique apex almost as long as the outer side, approaching the usual type in *Hymenorus*, that of the labial exceedingly robust and with one of its faces deeply concave. The male sexual characters are almost perfectly homologous with those of *Cistela brevis*.

The species are unusually closely related among themselves, and I have only been able to satisfactorily distinguish two, with the possibility of a third. They may be recognized by the following characters:—

Deep black; femora rufous, the tibiæ and tarsi piceous ..... **femoralis**  
Grayish-black; legs pale luteo-testaceous throughout ..... **erythropus**

**A. femoralis** Oliv.—Ent. III, 1795, 54, p. 12.—Oblong-oval, strongly convex, entire body and antennæ black, the femora bright red, the tibiæ and tarsi brownish; lustre dull, the pubescence excessively short and dense, dark and not in the least conspicuous. *Head* and prothorax minutely but deeply, extremely densely punctate, the punctures all narrowly separated, the head somewhat flat above; eyes rather small, separated by one-half more than their own width; antennæ long, slender, filiform, the joints fully three times as long as wide, third more than twice as long as the second and three-fifths as long as the fourth. *Prothorax* scarcely one-half wider than the median length, the apex just visibly sinuate, rather less than one-half as wide as the base, the latter broadly, strongly bisinuate, the basal angles strongly produced posteriorly and very acute; sides evenly convergent from base to apex, broadly, evenly, rather strongly arcuate; disk not impressed, the basal foveæ almost obsolete. *Elytra* four times as long as the prothorax and equal in width to the latter, sometimes slightly narrower; gradually, acutely ogival at apex; sides parallel and nearly straight; disk finely but rather strongly striate, the striæ finely punctate, the intervals distinctly convex, extremely minutely, densely punctate. *Abdomen* minutely, densely punctate. *Legs* very long and slender, the anterior and intermediate tarsi longer than the tibiæ, the posterior subequal thereto; basal joint of the latter equal in length to the remainder. Length 9.0–10.0 mm.; width (of elytra) 3.3–4.0 mm. ♀.

South Carolina; Georgia; Florida.

The specimens before me are all females, and in that sex the fifth

segment is shining, extremely sparsely punctate, broadly very feebly impressed and feebly, narrowly sinuate at apex. Most of the specimens have the elytra exactly equal in width to the prothorax, but in one they are distinctly narrower throughout their length.

**A. erythropus** Kirby.—Fn. Bor. Am., IV, 1837, p. 239; *fuscipes* Melsh.: Proc. Ac. Phil., III, 1846, p. 60; *luteipes*, Lec.: Sm. Misc. Coll., VI, p. 64.—Elongate-elliptical, strongly convex, grayish-black, dull, the legs throughout pale luteo-testaceous; antennæ fuscous, paler near the base; pubescence extremely short and dense, recumbent, cinereous in color and conspicuous. *Head* and pronotum extremely minutely and densely punctate, the punctures all narrowly separated, the head flat above, finely canaliculate along the middle, the eyes small; antennæ long and filiform. *Prothorax* and elytra nearly as in *femoralis*. *Abdomen* minutely rather densely punctate, the pubescence rather more conspicuous than in *femoralis*. *Legs* slender, shorter in the female than in the male, and, in the former, much shorter than in the female of *femoralis*.

*Male*.—Eyes separated by nearly one-half more than their own width; antennæ two-thirds as long as the body, the third joint but slightly longer than the second; anterior tarsi strongly compressed, the joints compactly joined, the two basal very small and subequal, the fifth strongly bent, slightly twisted and deformed, with the claws larger; fifth ventral segment polished, scarcely punctate, deeply, widely, angularly emarginate, the emargination partially filled with a depressed membrane; lobes of the genital armature very long and conspicuous, arcuate, approaching each other and turned downward toward apex, deeply excavated along their exposed surface, corneous.

*Female*.—Broader than the male, the prothorax more transverse, the basal angles more prolonged posteriorly; eyes separated by rather more than twice their width; antennæ one-half as long as the body, the third joint more than twice as long as the second and two-thirds as long as the fourth; anterior tarsi slender, longer than the tibiæ, the basal joint as long as the next two together; fifth ventral segment almost impunctate, impressed or broadly reflexed toward apex, the latter feebly, narrowly sinuate.

Length 8.2–10.0 mm.; width 3.0–3.8 mm.

Canada; North Carolina; Indiana.

In most of the males the third antennal joint is very slightly longer than wide, but in the two North Carolina specimens it is a little longer, fully one-half longer than wide. There is absolutely no difference in the sexual characters or in the minutest details of structure other than that mentioned, and I therefore think that the proposed synonymy cannot but be correct. In one specimen the legs are clouded with a slightly darker tint from the middle of the femora to the apex.

A few females before me from New York have the punctures

throughout the upper surface decidedly sparser than in the normal forms; with the discovery of the male they may possibly be found to represent a closely allied species.

## MELOIDÆ.

### ZONITIS Fab.

*Nemognatha* Ill.; *Gnathium* Kirby.

**Z. dunniana** n. sp.—Robust, convex, subparallel, polished, glabrous, pale flavo-testaceous throughout, the antennæ except at base and the tarsi toward apex piceous-black. *Head* subtriangular, somewhat coarsely, very densely punctured anteriorly, sparsely and unevenly so behind; labrum large, as long as wide; eyes moderate, the anterior emargination distinct; antennæ very slender, filiform, one-half as long as the body in the male, much shorter in the female. *Prothorax* nearly as long as wide, just visibly and evenly decreasing in width from base to apex; sides nearly straight in the middle; base slightly wider than the apex, both equally evenly and feebly arcuate; disk rather convex, not distinctly impressed, the punctures rather small, very feeble and excessively sparse. Scutellum impunctate toward apex. *Elytra* scarcely twice as long as wide, three-fourths to four-fifths wider than the prothorax, subparallel, abruptly and broadly rounded behind; disk convex, extremely coarsely, deeply and exceedingly sparsely punctured, each with three fine feebly elevated conspicuous subcostiform lines. *Legs* rather short and stout, the outer spur of the hind tibiæ robust, compressed cylindrical and very obliquely truncate, the inner spur a little less robust but similar to the outer. Length 7.5–12.5 mm.; width 3.2–5.8 mm.

Texas (El Paso). Mr. G. W. Dunn.

Although belonging near *punctipennis* Lec., this unusually interesting and aberrant species is distinguishable at a glance by its much coarser and sparser punctures, which are fully as distant as in *immaculata* and rather larger; it is further distinguished by the remarkable disparity in size of the sexes, the male being very much larger than the female. The abdomen of the male is finely, excessively densely punctuate and dull throughout every part of its surface, while in the female it is uniformly and unusually sparsely punctuate and polished; it is thus seen—in common with *immaculata*—to be closely allied to *bilineata* and others of that group. The maxillary processes are a little less than one-half as long as the head.

**Z. perforata** n. sp.—Moderately slender, convex, shining, pale ochreous-flavate, the elytra a little darker, brownish-rufous; antennæ black except at base; legs pale, the femora at tip, tibiæ along the external edge and toward

apex, and tarsi black; pubescence fine, short, cinereous, very sparse on the elytra, denser anteriorly. *Head* triangular, distinctly dilated behind the eyes, rather coarsely, very densely punctate, a little more sparsely so behind; eyes moderate, the emargination small but distinct; antennæ filiform, nearly one-half as long as the body, third joint three times as long as wide. *Prothorax* very nearly as long as wide, the sides straight, feebly convergent from base to apex, the latter broadly, distinctly arcuate, base subtruncate; disk narrowly impressed in the middle, the canaliculation short, densely, not very coarsely punctate throughout. *Scutellum* densely punctate. *Elytra* subparallel, twice as long as wide, about one-half wider than the prothorax, obtusely ogival in apical fourth; disk coarsely, deeply, rather closely punctured, the punctures a little sparser behind the humeri. *Abdomen* finely, strongly and somewhat densely punctate. *Legs* slender, the tarsi long. Length 11.0 mm.; width 3.8 mm.

Texas (Austin).

The only specimen which I could obtain is a male, the genital armature—in this genus very prominent and segmentiform—being deeply cleft. This species should be placed near *vittigera*, but differs in its much sparser and coarser elytral punctures and shorter maxillary processes. The maxillary processes are black and bent beneath the head, but are very short, not longer than the mandibles.

#### EPICAUTA Redt.

**E. levettei** n. sp.—Slender, feebly shining, the elytra dull, black throughout, the pubescence very short, sparse, recumbent, black. *Head* large, subquadrate, broadly truncate at base, the occiput very prominent, above the level of the pronotum and concealing a considerable portion of the latter when thrown backward; surface shining, finely, rather sparsely punctured; eyes normal, feebly emarginate; antennæ extremely long and slender, in the male nearly three-fourths as long as the body, just visibly attenuate toward apex, the joints long and cylindrical, the second joint one-third as long as the third. *Prothorax* as long as wide, much shorter and narrower than the head; sides parallel in basal two-thirds, then convergent to the apex, the latter about two-thirds as wide as the base; disk feebly convex, very broadly and feebly impressed along the middle in basal half, rather shining, finely feebly and densely punctate, the punctures well separated. *Elytra* subparallel, three times as long as wide or slightly more, rather more than twice as wide as the prothorax, the surface dull, extremely minutely, strongly granulate-reticulate, very finely, evenly, somewhat closely punctate. *Abdomen* shining, finely, sparsely punctured, the pubescence long, black and semi-erect. *Legs* long and rather stout, finely, densely punctate and pubescent; spurs of the anterior tibiæ two in number in both sexes, rather short but slender, black, those of the hind tibiæ very unequal in length, the inner long and rather

slender, the outer short and somewhat more robust; tarsi very long and strongly compressed. Length 21.5-26.0 mm.; width 5.7-6.5 mm.

Colorado.

A large and conspicuous species belonging near *funebri*, but larger in size and more sparsely punctured, with a larger head and much longer antennæ. The antennæ are notably longer and more slender than in any other species, the third joint being 2.0 mm. in length in the male and 1.4 mm. in the female, the entire length in the latter sex being distinctly more than one-half that of the body. This species, which is represented before me by four specimens, is one of the most interesting of the novelties contained in the Levette cabinet.

**E. duplicata** n. sp.—Moderately robust, cuneiform, black throughout the body, legs and antennæ, completely dull above, shining beneath; pubescence cinereous and black, short, recumbent, moderately dense and extremely coarse, black on the upper portions of the disk of the head and pronotum except along the median line, each elytron narrowly cinereous along the suture and external and apical margins, and also with a median vitta which is composed of two fine vittæ widely separated throughout but fused together at base and apex, the black pubescence similar in structure to the cinereous. *Head* finely, rather densely punctate, with a small oblique polished space near the base of each antenna; eyes moderate, normal; antennæ short and rather stout, but filiform, feebly compressed, scarcely one-half longer than the head, the joints subparallel and compactly joined, the second one-half as long as the third. *Prothorax* distinctly narrower than the head, a little wider than long, widest at anterior third, finely, deeply, rather densely punctate. *Elytra* distinctly increasing in width from base to near the apex where they are about twice as wide as the prothorax, about twice as long as wide, completely concealing the abdomen; sides nearly straight; disk finely, densely punctate. Under surface sparsely clothed with cinereous pubescence, the abdomen polished, rather coarsely but sparsely punctate. *Legs* moderate; spurs of the hind tibiæ very unequal, the inner slightly shorter, rather slender and very acute, the outer robust. Length 9.0 mm.; width 3.2 mm.

Arizona (Fort Apache).

The single representative appears to be a female. This species is very isolated in many of its characters, but for the present may be placed near *sanguinicollis*. The general characteristics of vestiture and ornamentation are quite different from anything else in our fauna.

**PYROTA** Lec.

The fasciate species allied to *mylabrina* can be very readily divided into two groups depending upon the form of the last joint of the maxillary palpi, some of the species having this joint but slightly modified in the male, while in others it becomes large and much deformed. The six species known to me may be separated as follows:—

Terminal joint of the maxillary palpi in the male very large, strongly transverse.

Basal antennal joint unusually long, pale; apical fascia of the elytra obsolete ..... **postica**

Basal joint short; elytra with three fasciæ.

Basal joint of the antennæ pale; femora and tibiæ flavate with the apices black ..... **mylabrina**

Basal joint black; legs and entire under surface black; middle elytral fascia much more elongate, the apical one reduced to a narrow border.

**engelmanni**

Terminal joint of the maxillary palpi not greatly modified in the male, small but obliquely pyriform, rapidly pointed and attached more or less axially to the third joint which is shorter and more transverse than in the female; terminal joint in the female not oblique, slender, truncate at apex.

Basal joint of the antennæ entirely or in great part pale; elytra rather strongly punctate, the apical piceous area not attaining the apex but separated therefrom by a narrow pale border, often completely obsolete.

**punctata**

Basal joint black; elytra finely punctate, the apical piceous area much larger, always attaining the apical margin.

Elytra densely punctate and more or less dull; antennæ (male) with the third joint very slender, distinctly longer than the fourth; base of the head more or less piceous ..... **terminata**

Elytra more sparsely punctate and polished; antennæ (male) with the third joint much shorter than the fourth ..... **concinna**

*Mylabrina* Chev. as above defined does not occur within the limits of the United States, and the specimens heretofore so identified are resolvable into the two species defined above under the names *terminata* Lec. and *concinna*. The definition of *mylabrina* is taken from the original description of Chevrolat, in which it is stated that the terminal joint of the maxillary palpi is "fortement en hache, très-épais," which would ally it closely to *engelmanni* and *insulata*.

**P. punctata** n. sp.—Pale testaceous, the elytra still paler and more flavate; antennæ black except the basal joint; legs testaceous, the tarsi and

tips of the femora and tibiæ black; under surface variegated with black and testaceous, the abdomen banded; integuments polished. *Head* immaculate, finely, sparsely punctate; eyes moderate; antennæ slender, two-fifths as long as the body in the male. *Prothorax* slightly elongate, narrowed toward apex from the middle, the apex three-fifths as wide as the base; sides parallel in basal half; disk very finely, sparsely punctate, with two discal rounded spots as in *postica* but without trace of lateral spots. *Elytra* parallel, strongly and rather sparsely punctured, the scutellar spot small, elongate-oval, widely separated from the humeral spot which is narrow and linear, extending nearly to basal third; second fascia slightly behind the middle, rather short, strongly bilobed; subapical spot lunate. Length 15.0–19.0 mm.; width 4.2–6.0 mm.

Western Texas.

The three specimens before me are quite homogeneous as regards the form and extent of the first two fasciæ, but the subapical band is totally wanting in one, and in another it exhibits such a form as to indicate the probability of its being prolonged forward externally in more fully maculate examples, so as to be united to the external lobe of the median spot. The middle spot is so strongly bilobed that it is possible that it may be longitudinally divided into two spots in less fully marked specimens.

**P. concinna** n. sp.—Testaceous; under surface maculate with black; antennæ black throughout; legs as in *punctata*; elytra broadly trifasciate, the black predominating nearly as in *terminata*; integuments highly polished. *Head* minutely, very sparsely punctate; eyes moderate; antennæ a little less than two-fifths as long as the body; neck with a small evanescent black spot in the middle of the upper surface. *Prothorax* distinctly elongate, narrowed in front from a little behind apical third, the apex nearly three-fourths as wide as the base; sides parallel; disk minutely, very sparsely and irregularly punctate, feebly impressed in the middle near the base. *Elytra* parallel, three times as long as wide, each with the four usual fine feeble subcostiform lines, the third joining the marginal behind the humeri; disk finely, generally somewhat sparsely punctate, the basal spots always broadly united. Length 11.5–18.0 mm.; width 3.0–5.0 mm.

Western Texas.

This species is closely allied to *terminata* but is well distinguished by its more polished and sparsely punctate elytra, and by its antennal structure; it is still more definitely separable from that species by the form of the maxillary palpi of the male, the latter being more elongate and with the terminal joint much less externally developed toward base in *terminata* than in *concinna*.

Most of the specimens before me have the head and pronotum maculate as in *terminata*, but two of them have these parts almost



completely deprived of spots except the two discal ones of the pronotum, which are reduced to minute points. The basal spots of the elytra are more elongate here than in *terminata*, and are always broadly coalescent, while in the latter they are frequently separated, the outer one occasionally disappearing.

**NEGALIUS** n. gen.

Body strongly cuneiform and convex, the wings apparently not quite as long as the elytra, the inflexed sides of the latter narrow, exposing the side-pieces of the sterna. Head even, nearly flat anteriorly, the antennæ arising just before and within the eyes and but moderately distant at base, short, filiform, compressed, the joints compactly joined and nearly parallel-sided; eyes moderate, oval, feebly emarginate at the middle anteriorly; mandibles small, stout, almost rectangularly bent in the middle, the apical portion polished and longitudinally trisulcate, the apex broadly subtruncate and serrate, the teeth being four or five in number; maxillary palpi moderate, rather slender, the last joint subparallel and truncate; epistoma transverse, truncate at apex, the suture very fine, not noticeably impressed; labrum short, transverse, subtruncate at apex, the angles rounded. Metasternum moderately long, the middle coxæ not extending to the posterior margin. Legs rather long and slender; tibial spurs all very slender, those of the anterior and intermediate very unequal, the longer nearly twice as long as the shorter, the posterior but slightly unequal in length; tarsi shorter than the tibiæ, the claws slender, feebly arcuate, with a small very slender acute oblique tooth near the base.

This genus belongs near *Phodaga* and has the basal joint of the anterior tarsi similarly modified in the male, but differs in its long tibiæ, unmodified in the male, correspondingly short tarsi, mandibular structure and toothed claws, the latter being rather cleft than toothed in *Phodaga*. The single species is altogether different in general habitus from *Phodaga alticeps*.

**N. marmoratus** n. sp.—Rather short and convex, strongly cuneiform, black throughout; integuments dull, the pubescence cinereous, minute and appressed, sparse on the head and pronotum, but forming small uneven sparsely placed spots on the elytra, these pubescent areas being feebly depressed or eroded. Head subquadrate, feebly, evenly convex, sparsely, extremely minutely punctate, the punctures being entirely filled by the hairs; occiput evenly arcuate viewed posteriorly; antennæ one-third longer than the head, in structure nearly as in *Phodaga alticeps*, but not attenuate toward apex. Prothorax subrectangular, slightly wider than long and a little narrower than the head, broadly tumid posteriorly; sides parallel, broadly rounded at apex; disk finely canaliculate along the middle, finely, very feebly and sparsely punctate. Scutellum triangular, polished. Elytra at base about

three-fourths wider than the prothorax, at apical fourth nearly four times as wide as the latter, about two-thirds longer than wide, each with two discal and one marginal fine feebly elevated lines, the disk very dull, minutely and strongly granulato-reticulate but not punctate. *Legs* rather long and very slender. Length 9.8–11.8 mm.; width 4.6–6.0 mm.

Western Texas.

The sexual modification of the abdominal apex is not at all conspicuous in the two males before me.

## CURCULIONIDÆ.

### CLEONINI.

The subgenus *Apleurus* of Chevrolat is somewhat comprehensive, but as represented by *A. fossus*, apparently intended by the author as the generic type, it may be described in general terms as having the beak flattened, thick and broad, and more or less devoid of medial carination, the tarsi with pads of dense pubescence beneath, the elytral maculation confused or at least non-vittate, and the prothorax angulate and constricted anteriorly at the sides. These characters all pertain to the groups separated by LeConte under the names *Cleonopsis* and *Cleonaspis*.

It seems to be impossible to separate the species allied to the typical *Cleonus* of Europe into groups which can in any way be considered of generic value, and, as far as our own fauna is concerned, there are apparently but three distinct genera which may be defined as follows:—

Prosternum with an erect spiniform process before each coxal cavity; tarsi extremely coarsely and sparsely spinose beneath, without trace of densely pubescent brushes.....**Dinocleus**

Prosternum normal, without spiniform processes; tarsi with brushes or pads of yellowish-brown pubescence beneath.

Beak thick, more or less dilated toward apex; densely pubescent pads sometimes imperfectly developed or obsolete on the posterior tarsi...**Cleonus**

Beak slender, cylindrical and more arcuate, generally not appreciably dilated at apex; body less stout, often very slender.....**Lixus**

### **DINOCLEUS** n. n.

*Centrocleonus* || Lec.

The species of this distinct genus are more robust and oval in outline than in *Cleonus*, and are readily distinguishable by their

broad flattened beak which is occasionally feebly carinate along the middle and always strongly dilated at apex, by the angulate or tuberculate sides of the prothorax, prosternal spines and absence of brushes of yellow spongy pubescence from the lower surface of the tarsal joints, the latter being simply coarsely and sparsely spinose. I have been obliged to change the name originally given by Dr. LeConte, as the name *Centrocleonus* had been assigned by Chevrolat three years before to a South African genus or sub-genus. Our species may be readily identified by the following table:—

Alternate elytral intervals more strongly elevated, especially toward base.

Elytral setæ long and bristling.

Larger species, the alternate intervals very strongly elevated; head coarsely, densely punctate; genæ almost glabrous; vestiture longer paler and extremely dense ..... **pilosus**

Smaller species, the alternate intervals feebly elevated; head more sparsely punctate; genæ densely pubescent; vestiture shorter, sparser and darker in color ..... **jacobinus**

Elytral setæ short and inconspicuous.

Beak finely, distinctly carinate along the middle.

Robust and suboval; elytral vestiture whitish, denuded in large blotches of which a large oblique area near basal third and a broad transverse fascia at apical third are especially noticeable ..... **angularis**

Narrower, more parallel and more depressed; vestiture cinereo-ferruginous, extremely dense, and denuded on the elytra only in a few small spots ..... **denticollis**

Beak not carinate, sometimes feebly, narrowly bisulcate.

Alternate intervals rather strongly elevated; elytral vestiture finer shorter and sparser, not denuded, although much sparser in a broad discal region near basal third and a narrower transverse fascia at apical third ..... **porosus**

Alternate intervals more feebly elevated; elytral vestiture coarser, more squamiform, much denser and more recumbent but in great part denuded in very large blotches especially in the same regions as in *porosus* ..... **farctus**

Alternate intervals not more strongly elevated or only extremely feebly so; form more elongate-oval.

Sutural stria of the elytra not more strongly impressed.

Sutural interval not dissimilar in vestiture.

Elytral vestiture dense, persistent, denuded, in small widely distant areas, in which the punctures of the elytral series become conspicuously larger.

Large species, very robust, the sides of the prothorax feebly divergent and arcuate from the tubercles to the base..... **saginatus**

- Smaller species, much less stout, the sides of the prothorax sub-parallel behind the tubercles.....**albovestitus**  
 Elytral vestiture rather less dense, not denuded in definable spots but slightly denser along the alternate intervals, extremely easily removable; punctures of the elytral series uniform in size throughout. **molitor**  
 Sutural interval evenly clothed with shorter sparser and darker vestiture, forming an even sutural vitta.....**Wickhami**  
 Sutural stria broadly and strongly impressed almost throughout the length but especially so between basal and apical third.....**densus**

In distribution the genus *Dinocleus* seems to be confined to the desert regions of Southern and Lower California, thence extending through the southern parts of Arizona and along the western slope of Mexico at least as far as Acapulco.<sup>1</sup>

**D. pilosus** Lec.—*Centrocleonus pil.*: Proc. Am. Phil. Soc., XV, p. 145.—Robust, oval, black, moderately shining, the nearly flat bottoms of the large punctiform foveæ highly polished. *Head* coarsely, rather densely punctate, nearly denuded of pubescence; beak broadly bisulcate, nearly twice as long as wide, densely clothed above but abruptly glabrous on the flanks, a little shorter than the prothorax. *Prothorax* a little wider than long, strongly tuberculate laterally at apical fourth, the sides thence parallel to the base and feebly sinuate immediately behind the tubercle; apex transverse, three-fourths as wide as the base, the latter broadly triangular; disk extremely coarsely, deeply, unevenly punctato-foveate, the interspaces densely, finely but strongly punctate, with a very fine imperfect median pubescent line, a broader sinuate line laterally which is bifurcate toward base, the lateral tubercle also more densely pubescent. *Scutellum* small but distinct. *Elytra* two-fifths longer than wide, a little more than twice as long as the prothorax, and, in the middle, nearly two-fifths wider than the latter; sides arcuate, the humeri not distinctly exposed; apex broadly conjointly rounded; disk with rows of large deep punctures, the alternate intervals very strongly costiform; pubescence very dense, denuded in a small spot between the third and seventh interval at basal third which does not at all interrupt the elevated fifth interval, also in a small discal spot just behind the middle of each elytron. *Abdomen* densely squamulo-pubescent, densely speckled with small subdenuded points. *Legs* robust, densely pubescent, the femora annulate with denser, paler vestiture at apical third. Length 11.7 mm.; width 5.3 mm.

California. Cab. LeConte.

Described from the unique type which is in an excellent state of preservation. The species may be known at once by the strongly costiform alternate elytral intervals and long erect bristling setæ, in addition to the dense vestiture.

<sup>1</sup> The measurements of length, which follow, are exclusive of the beak, *i. e.*, from the anterior margin of the eye to the apex of the elytra.

**D. jacobinus** n. sp.—Moderately robust and convex, suboval, black, dull in lustre, densely clothed with short dark plumbeous squamiform hairs and with sparse erect setæ. *Head* sparsely punctate, subdenuded; beak densely pubescent, feebly bisulcate, one-half to two-thirds longer than wide, much shorter than the prothorax, denuded at the sides toward base, the genue densely pubescent. *Prothorax* distinctly wider than long, very strongly angulato-tuberculate at the sides anteriorly, the width at this point slightly greater than at base, the sides sinuate behind the tubercle; apex truncate, three-fourths as wide as the base, the latter broadly angulate and bisinuate; disk extremely coarsely unevenly and densely foveate, the interspaces dull finely, densely punctate, densely pubescent laterally. *Elytra* one-half longer than wide, distinctly more than twice as long as the prothorax and from one-fourth to one-third wider than the latter; sides nearly parallel and straight in basal two-thirds, then rounded to the apex; humeri almost rectangular and quite broadly exposed; disk with the alternate intervals slightly costiform, a deeply eroded and denuded oblique spot from the fourth interval toward the humeri which interrupts the costiform elevations, also a small discal spot on each elytron nearer the suture and behind the middle. *Abdomen* densely pubescent, speckled with black points. *Legs* short, moderately stout, densely, coarsely pubescent, the vestiture slightly denser on the femora at apical third above but not beneath. Length 6.5–9.0 mm.; width 2.7–4.0 mm.

California (San Diego).

This species, represented before me by a good series of eight specimens, is allied to *pilosus* but differs in its much smaller size, coarser shorter darker and more sparsely placed vestiture, in its more parallel elytra with exposed humeri, in its less costiform elytral intervals and many other characters.

**D. angularis** Lec.—(*Cleonus*) Col. Kansas, etc., p. 18; *Centrocleonus ang.*: Proc. Am. Phil. Soc., XV, p. 146.—Rather robust and convex, suboval, black, somewhat dull in lustre, the vestiture squamiform, recumbent, very dense except in the denuded spots. *Head* coarsely, sparsely punctate, the interspaces finely, densely so; beak a little shorter than the prothorax, two-thirds longer than wide, densely clothed above, rather finely but very strongly carinate, the carina feebly arcuate when viewed laterally. *Prothorax* about one-fourth wider than long, the lateral tubercle very prominent, the disk thence parallel-sided and distinctly narrower to the base, the latter broadly triangular, wider than the truncate apex; disk very coarsely, unevenly foveate, obliquely pubescent laterally and sometimes narrowly along the middle. *Elytra* about two-thirds longer than wide; sides distinctly arcuate, obliquely rounded to the apex, the latter somewhat parabolically rounded; humeri not noticeably exposed or prominent; disk with rather impressed series of very coarse deep punctures, the alternate intervals but feebly costiform, the vestiture denuded in large irregular blotches of which an oblique fascia near basal third and a broad transverse band at apical third are chiefly prominent, the sutural interval pubescent throughout. *Abdomen* densely squamulo-pubescent;

segments three to five more sparsely so toward base, the fine semi-denuded points not very evident. *Legs* short and robust, densely clothed, the femora feebly annulate with paler and denser pubescence at apical third. Length 9.8–10.5 mm.; width 4.2–4.8 mm.

New Mexico.

The two typical representatives of this species which I have before me are both from New Mexico, and I also refer to it a specimen from Arizona which is more elongated and parallel with a rather less developed rostral carina and more broadly pubescent median area of the pronotum.

**D. denticollis** n. sp.—Moderately robust, somewhat depressed above, elongate-suboval, black and somewhat dull throughout, extremely densely clothed with short recumbent squamiform pubescence, cinereous to ferruginous in color, the erect hairs very short, sparse. *Head* sparsely punctate; beak about one-half longer than wide, a little shorter than the prothorax, flattened, broadly bisulcate, very densely pubescent above, the medial carina rather narrow but not acute, moderately elevated. *Prothorax* fully one-fourth wider than long, widest at the anterior lateral tubercles which are very pronounced; sides behind them parallel to the base, the latter broadly cusped in the middle, much wider than the apex; disk very coarsely, unevenly foveolate, broadly, obliquely pubescent laterally and more or less broadly but rather less densely so in the middle. *Scutellum* very small. *Elytra* two-thirds longer than wide, much more than twice as long as the prothorax and about one-third wider; sides feebly arcuate especially behind, obliquely convergent to the apex, the latter narrowly subtruncate; humeri not much exposed or prominent; disk with series of moderate sized, rather distinct punctures, the alternate intervals rather strongly elevated, the extremely dense pubescence imperfectly denuded in an oblique spot on each elytron at basal third and posteriorly in a large elongate spot parallel to the side margin from the middle nearly to the apex, also behind the middle near the suture along the second interval. *Abdomen* extremely densely pubescent, the small denuded points sparse. *Legs* moderately stout, the femora feebly annulate at apical third. Length 9.5–10.0 mm.; width 4.0–4.4 mm.

Arizona (Peach Springs). Mr. H. F. Wickham.

The typical series of five specimens represents a species somewhat allied to *angularis* but differing completely in the general arrangement of the denuded elytral spots, also in its smaller size, narrower and more depressed form and smaller punctures of the elytral series. The general direction of the elytral denudation is longitudinal in this species but is more transverse in *angularis*.

**D. porosus** Lec.—*Centrocleonus por.*: Proc. Am. Phil. Soc., XV, p. 146.—Robust and convex, suboval, black, the integuments strongly shining and

polished; pubescence very short, dense, pale cinereous in color. *Head* coarsely, somewhat closely punctured, the beak much shorter than the prothorax, about two-thirds longer than wide, densely pubescent and narrowly, feebly bisulcate above, abruptly nearly glabrous at the sides. *Prothorax* one-fourth wider than long, widest at the anterior tubercles which are small but very pronounced; sides thence to the base parallel and straight; base broadly angulate, the scutellar lobe slightly produced and rounded; apex subtruncate, but slightly more than two-thirds as wide as the base; disk very coarsely, deeply foveate, the bottoms of the foveæ highly polished, the interspaces densely and rather strongly punctate; pubescence dense laterally, the inner margin of the pubescent area sinuous. Scutellum very small. *Elytra* scarcely two-thirds longer than wide, two and one-half times longer, and, in the middle, two-fifths wider than the prothorax; sides arcuate, obliquely convergent behind to the apex which is rather acutely ogival; humeri not prominent; disk with series of extremely large deep and somewhat distant punctures, the alternate intervals distinctly elevated and costiform, the vestiture imperfectly denuded in a large transverse discal area before the middle and a narrower transverse band three-fifths from the base, the sutural interval evenly pubescent throughout. *Abdomen* very densely pubescent but sparsely so on segments three to five except at the sides and along the apices, the small denuded points nearly obsolete. *Legs* moderately stout, densely clothed, the femora annulate at apical third. Length 11.5 mm.; width 5.0 mm.

Lower California (Cape San Lucas). Cab. LeConte.

The unique type is in an almost perfect state of preservation, and the species may be easily identified by its very coarse punctures of the elytral series, feebly bisulcate beak and peculiarities of the vestiture which will be more fully described under the next species.

**D. farctus** n. sp.—Robust and convex, oval, black and rather shining throughout, the vestiture cinereous. *Head* coarsely, sparsely punctate, the punctures deep and variolate; beak three-fourths longer than wide, slightly shorter than the prothorax, densely pubescent above, glabrous at the sides, the pubescent region much narrower than the beak and scarcely perceptibly bisulcate, the lateral edges broadly convex. *Prothorax* more than one-fourth wider than long, subconical in form, slightly wider at base than at the anterior tubercles, the latter small and but moderately prominent, the sides behind them slightly divergent to the base and nearly straight; base broadly angulate, the slightly produced scutellar lobe angulate, the apex broadly arcuate, scarcely two-thirds as wide as the base; disk coarsely, extremely unevenly foveate, a median discal area before the middle more or less impunctate and finely canaliculate; vestiture obliquely dense laterally. *Elytra* nearly three-fourths longer than wide, two and one-half times as long as the prothorax; sides broadly arcuate; humeri not prominent; disk broadly rounded in apical third, having series of very large deep somewhat distant punctures, the alternate intervals but feebly elevated, the vestiture in great part denuded

in large blotches, especially in a large discal area before the middle and a broad transverse band behind the middle, the suture narrowly pubescent throughout. *Abdomen* extremely densely pubescent, the last three segments sparsely so along the basal margins, the denuded points obsolete. *Legs* moderately robust, densely clothed, the femora not distinctly annulate. Length 13.7 mm.; width 6.0 mm.

California (near the southern boundary). Mr. Dunn.

A large and distinct species, represented by a single specimen. It is allied to *porosus* but is much larger and with larger denuded areas on the elytra, a more conical prothorax, more narrowly pubescent and less sulcate beak, and differs also in several other important respects. The vestiture, where not denuded, is denser than in *porosus*, and consists of rather broad attenuate scales, recumbent and mutually overlapping, while in *porosus* it is composed of very short robust or subsquamiform hairs which are erect, and, although dense, everywhere mutually separated. The posterior femora in *farctus* are longer than in *porosus*, extending nearly to the middle of the fifth ventral segment, while in the latter they extend scarcely beyond the base of the fourth.

**D. sagnatus** n. sp.—Very robust, convex, the integuments black and rather strongly shining throughout; the vestiture short, broadly squamiform, very dense and persistent throughout; pale ochreous-cinereous in color. *Head* and beak densely clothed throughout and with large widely scattered punctures, which are not concealed by the vestiture; beak not as long as the prothorax, broadly flattened and without distinct sulcations or carina. *Prothorax* scarcely one-fifth wider than long, the sides feebly convergent from base to apex, strongly tuberculate at apical fourth, the sides thence to the base feebly arcuate; apex truncate, two-thirds as wide as the base, the latter broadly angulate throughout and without distinct scutellar lobe; disk very slightly wider at base than at the subapical tubercles; very broadly, feebly impressed before the scutellum, sparsely, very coarsely foveate, the bottoms of the foveæ polished, the interspaces rather strongly, densely punctate; along the middle there is a very narrow opaque but non-pubescent line, the vestiture dense laterally as usual. *Elytra* one-half longer than wide, two and three-fourths times longer, and, behind the middle, nearly four-fifths wider than the prothorax; sides nearly straight, obliquely, strongly convergent in apical third, the apex narrowly, arcuately subtruncate; humeri obliquely truncate; disk slightly widest behind the middle, with unimpressed rows of very deep, distinct, moderately large punctures, which, in the small oblique subdenuded spot at basal third, and another nearer the suture behind the middle, become very large and conspicuous; there is also a small denuded spot near the side at basal fourth. *Abdomen* and legs extremely densely clothed throughout, the small denuded points of the former very sparse. Length 15.5 mm.; width 6.6 mm.



## Arizona.

A fine large species, allied to *albovestitus*, but differing in its very much more robust form, and in the more conspicuously enlarged punctures of the elytral striæ at the points mentioned in the description. It is represented by a single specimen which is probably a female.

**D. albovestitus** n. sp.—Elongate-ovoidal, somewhat convex, black, rather dull in lustre, the vestiture white, extremely dense, squamiform. *Head* and beak densely clothed above, the latter subglabrous at the sides and narrowly, feebly subcarinate along the middle, three-fourths longer than wide and much shorter than the prothorax. *Prothorax* but slightly wider than long; sides parallel and nearly straight, angulate anteriorly, the disk tubularly produced at apex for one-sixth the length, the apex subtruncate, three-fourths as wide as the base, the latter broadly angulate and feebly bisinuate; disk very coarsely but sparsely and unevenly foveo-variolate, the interspaces finely, densely punctate, generally with a very fine feeble medial carina throughout the length; pubescence dense laterally, the oblique margins of the dense areas emarginate in the middle. *Elytra* twice as long as wide, not quite three times as long as the prothorax and two-fifths wider than the latter; sides parallel and nearly straight, obliquely convergent in apical third, the apex narrowly subtruncate; humeri slightly exposed and obliquely truncate; disk with series of rather large, moderately distant punctures, the dense vestiture denuded only in rather small uneven spots especially near basal and apical third and near the middle line of each elytron. Under surface and legs extremely densely clothed with pure white squamiform pubescence, the legs rather slender, the femora not annulate. Length 9.4–11.8 mm.; width 3.8–4.8 mm.

## California (Los Angeles and Colton).

This species is not very closely allied to any other, and may be easily known by its general similarity in form to *molitor*, by its exceedingly dense, and, in perfect specimens, brilliant white vestiture which is not so easily removable as in the *molitor*, but which—as in that species and especially in less fully pubescent specimens, is frequently denser along the alternate intervals of the elytra. It is represented in my cabinet by a series of six specimens.

**D. molitor** Lec.—Proc. Phil. Acad., 1853, p. 78 (Cleonus); *Centrocleonus mol.*: Proc. Am. Phil. Soc., XV, p. 146.—Oblong-oval, rather convex, black, feebly shining, somewhat densely clothed with recumbent squamiform pubescence which is easily removable, rather uniformly distributed but a little denser along the alternate intervals of the elytra. *Head* and beak coarsely, sparsely foveate. *Prothorax* generally slightly conoidal and very nearly as long as wide, angulate and constricted near the apex. *Elytra* quite distinctly less than twice as long as wide, fully three times as long as the prothorax

and from one-half to three-fourths wider than the latter, the humeri obliquely truncate; disk with even rows of deep and moderately distant punctures which are quite moderate in size. Length 14.0–16.5 mm.; width 5.5–7.0 mm.

Southern California and Arizona.

The series of ten specimens which I have before me indicates but slight variation in this rather abundant and well-known species. I obtained a number of specimens at Yuma in December, mostly *in copula* and entirely exposed to the intense heat of the sun on the surface of loose dry sand; the fact that complete desiccation does not take place very soon under these conditions is only to be accounted for by the unusual density and thickness of the integuments, the latter being characteristic of most of the desert-loving Curculionidæ and Tenebrionidæ, and undoubtedly developed from their peculiar environment.

Two specimens from Guerrero, Mexico, collected by Mr. Baron, do not differ from the typical forms to any perceptible extent.

**D. wickhami** n. sp.—Elongate, subparallel, rather convex, black, somewhat dull, densely clothed with white and brown squamiform pubescence. *Head* sparsely punctate; beak nearly twice as long as wide, shorter than the prothorax, obscurely bivittate, more sparsely clothed along the middle and on the flanks. *Prothorax* about as long as wide, constricted and briefly tubulate at apex; sides parallel and nearly straight; antero-lateral angulations small and tuberculiform; base broadly angulate, feebly lobed in the middle; disk moderately coarsely and rather sparsely punctate, almost impunctate near the middle, impressed in the middle near the base; pubescence dense in a sublateral sinuous vitta, also in a narrower medial line. *Elytra* twice as long as wide, nearly three times as long as the prothorax and fully two-fifths wider than the latter; sides parallel and nearly straight, obliquely convergent in apical third, the apex narrowly subtruncate and emarginate; humeri obliquely truncate; disk with unimpressed rows of comparatively small and not very close-set punctures, the white vestiture dense on the flanks and in a broad discal vitta, the brown prevailing in a broad intermediate vitta and also throughout the sutural interval, a few small subdenuded spots are irregularly distributed from outer third to the sutural interval, one at lateral third just before the middle and a few still smaller, nearer the suture and just behind the middle especially evident. *Abdomen* very densely clothed with white vestiture, feebly speckled with minute subdenuded points, the last three segments more sparsely pubescent toward base, a small rounded depressed area at the middle of the apex of the first segment also subdenuded. *Legs* rather long and but moderately stout, the femora not annulate. Length 11.5 mm.; width 4.8 mm.

California (Colorado Desert at Indio—about 100 feet below the sea-level). Mr. H. F. Wickham.

The single specimen which I have been able to study represents a very distinct and interesting species, especially distinguishable by the coarsely and irregularly tessellated vestiture of pure white and dark brown.

**D. densus** n. sp.—Oblong, suboval, somewhat depressed, black, rather dull in lustre, extremely densely clothed throughout with cinereo-ferruginous squamiform vestiture which is rather persistent. *Head* and beak rather finely, sparsely punctate, the beak much shorter than the prothorax, densely clothed throughout but a little less densely so along the middle and on the flanks, broadly, feebly convex above but not distinctly carinate. *Prothorax* nearly as long as wide, very strongly constricted and briefly tubulate at apex; sides parallel and nearly straight, antero-lateral angles obtuse and feebly tuberculiform; disk sparsely and coarsely but somewhat feebly punctate, the interspaces finely and densely punctato-rugulose; pubescence moderately dense but abruptly very dense laterally, the dividing line being but slightly oblique and broadly sinuous. *Elytra* a little less than twice as long as wide, about two and one-half times as long as the prothorax, and, in the middle, from one-third to one-half wider than the latter; sides broadly, feebly arcuate, obliquely convergent in apical third, the apex feebly produced and subtruncate; humeri narrowly oblique; disk extremely densely clothed, the vestiture not denuded but just visibly less dense along the alternate intervals, the sutural stria broadly, deeply impressed, the stria punctures almost completely obscured by the vestiture. *Abdomen* and legs extremely densely clothed throughout with ochreous-white, the legs rather short and but slightly robust. Length 10.0–15.0 mm.; width 3.9–6.0 mm.

Arizona (Winslow). Mr. Wickham.

Apparently taken in abundance; my series is very homogeneous and consists of one small male and four much larger females, the latter with distinctly broader and longer rostrum. This species can easily be identified by its rather depressed form, dense and persistent vestiture, unusually sparse and feeble punctuation, and by the broadly impressed sutural stria of the elytra.

### CLEONUS Schön.

This very composite genus includes a large complex of species of varied but generally more or less robust form, and especially with the rostrum thick and broad. It has been subdivided by several authors, notably Chevrolat and Motschulsky, into a number of groups, nearly all of which are indefinitely limited and therefore incapable of taking rank as valid genera. The subgeneric groups within our boundaries may be defined in general terms as follows:—

Beak broad and more or less flat; pattern of the elytral maculation obliquely subfasciate; prothorax always constricted near the apex.

Beak strongly tricarinate, the lateral carinæ frequently obsolete.

**Stephanocleonus**

Beak not strongly carinate, generally completely non-carinate ... **Apleurus**  
Beak nearly cylindrical, often obsolete carinate; form of body intermediate between **Apleurus** and **Lixus**, the pattern of elytral ornamentation always more or less vittate; prothorax generally not constricted at apex.

**Cleonidius**

The species may be outlined as follows:—

Subgen. **Stephanocleonus** Mots.

Humeri obliquely truncate; vestiture extremely short and pruinose.

**plumbeus** Lec.

Humeri rounded; vestiture longer, much denser and paler... **cristatus** Lec.

Subgen. **Apleurus** Chev. (type *fossus*).

*Cleonopsis* Lec.; *Cleonaspis* Lec.

Robust, the beak obsolete carinate, the vestiture dense, cinereous, the elytra each with two large oblique subdenuded spots and a subapical slightly denuded area; pubescent pads of all the tarsi quite distinct, but much less so on the posterior ..... **pulvereus** Lec.

Slightly less robust, the beak completely non-carinate, smaller in size; vestiture very dense, ferruginous, the maculation extremely obscure but nearly as in *pulvereus*; legs and tarsi rather more slender, the pubescent pads rather small, and, on the posterior, almost obsolete in the male but visible on the third joint in the female..... **lutulentus** Lec.

NOTE.—It will be observed that similar differences in the extent of the tarsal brushes are observable in the next subgenus, and have been alluded to by LeConte (Proc. Am. Phil. Soc., XV, p. 148).

Subgen. **Cleonidius** n. subg.

*Cleonus* Lec.; *Apleurus* Chev. (pars—"espèces lyxiformes").

Sec. I.—*Second joint of antennal funicle much shorter than the first; body thicker and more oval; beak long, very thick, distinctly dilated at apex.*

Prothorax constricted at the sides near the apex.

Constriction strong; vestiture extremely dense and rather long, completely concealing the punctuation, denuded on the elytra in small rounded sparsely placed spots, which are only distinct near the suture and lateral margin; prothorax deeply excavated in the middle toward base.

**collaris** Lec.

Constriction feebler and nearer the apex; vestiture very short and sparser, not concealing the punctuation; elytra with a broad imperfectly denuded sublateral and narrower subsutural vitta, and often sparsely marmorate with small spots of denser pubescence ..... **grandirostris** n. sp.

Prothorax not conspicuously constricted at the sides.

Elytra very densely squamulo-pubescent, the vestiture often slightly thinner along a subsutural and broader submarginal vitta.

Prothorax "longer than wide, distinctly carinate" .... **inornatus** Lec.

Prothorax distinctly wider than long, not definitely carinate.

**canescens** Lec.

Elytra sparsely pubescent, vittate with denser vestiture.

Elytra marmorate with uneven patches of dense cinereous pubescence which are more densely aggregated along the margin and in a broad region between the first and fifth series of punctures.

**carinicollis** Lec.

Elytra with continuous marginal pale vitta and another between the second and fifth elytral series, the latter often divided into two vittæ, the sparsely pubescent subsutural and submarginal vittæ more or less speckled with spots of dense pubescence ..... **trivittatus** Say

*præpotens* Say

Elytra almost glabrous, sparsely pubescent toward base and on the third and fifth intervals behind the middle, also with a submarginal vitta; each elytron subcarinate in the middle toward base..... **bicarinatus** n. sp.

Elytra almost glabrous, with a narrow even vitta occupying the third interval, and another, but slightly broader, along the lateral margin, both composed of dense pure white pubescence ..... **lecontei** n. sp.

NOTE.—The Mexican *boucardi* Chev. also belongs here and probably in the neighborhood of *lecontei*.

Sec. II.—*Second joint of funicle much shorter than the first; body more slender, subparallel; beak generally rather long, much thinner and not distinctly dilated at apex.*

Elytra densely pubescent, with a narrow subsutural and broader submarginal vitta partially or completely denuded.

Vittæ extremely feebly defined, with the pubescence but slightly sparser; beak finely, very densely punctate and pubescent; vestiture throughout cinereous and extremely dense. Massachusetts... **calandroides** Rand.

Vittæ well defined but strongly marmorate with denser patches.

Pronotum strongly carinate, extremely coarsely, sparsely punctate.

**sparsus** Lec.

Pronotum not at all carinate, usually more strongly constricted near the apex, especially in the female ..... **frontalis** Lec.

*puberulus* Lec.

Vittæ well defined and not or scarcely at all mottled, generally even.

Prothorax without ocular lobes, the vibrissæ very long; pronotum distinctly carinate ..... **quadrilineatus** Chev.

Prothorax with strong and distinct ocular lobes, the vibrissæ short.

Pronotum not at all carinate, the punctures sparse; elytral vestiture moderately long, dense..... **lobigerinus** n. sp.

Pronotum feebly carinate, the punctures not quite so coarse, dense and subconfluent; beak short, robust, finely but strongly, densely punctate, with a narrow slightly tumid median impunctate line; elytral

vestiture short and very sparse throughout; form rather short, the elytra barely twice as long as wide.....**kirbyi** n. n.

*vittatus* Lec. nec Kirby

Elytra densely pubescent, each elytron with several narrow denuded vittæ; beak finely, strongly punctulate and also with coarse somewhat sparse punctures, moderately carinate; pronotum with very coarse more or less remote punctures, feebly carinate; elytra much more than twice as long as wide.....**vittatus** Kirby

*poricollis* Mann.

var. *virgatus* Lec.

Elytra more or less densely squamulo-pubescent and often sparsely speckled with denser spots, the vestiture always denser along the lateral margins and forming a conspicuous marginal vitta; pronotum not carinate.

Beak gradually and feebly attenuate from base to apex...**modestus** Mann.

*californicus* Mots.

*pleuralis* Lec.

Beak parallel or very feebly dilated at apex.

Vestiture long, dense, pubiform and villose.....**circumductus** n. sp.

Vestiture short, much less dense, more recumbent and squamiform; body cylindrical, strongly convex.

Beak compressed above and strongly, narrowly tumid along the middle.

**texanus** Lec.

Beak cylindrical, not at all compressed; prothorax larger, much more finely punctured.....**subcylindricus** n. sp.

Sec. III.—*Second joint of funicle subequal to the first; body subcylindrical, the beak extremely short and thick but not noticeably dilated at apex.*

Pronotum densely and coarsely granulose.....**graniferus** n. sp.

In the subgenus *Stephanocleonus* there are indications of several other species within our territories, but the material is so limited that they cannot be advantageously defined at present, especially in the absence of the unique type of *cristatus*. It is a question whether our species should be placed in *Stephanocleonus* or *Plagiographus*, but this is a matter of but slight importance as the difference between these subgenera appears to be very inconsiderable.

The above table is somewhat unsatisfactory, owing to my inability to study the original types of some of the more inadequately described species, such as *californicus* and *modestus*. There seems to be but little doubt, however, that *præpotens* is the same as *trivittatus*, as the size of the body and ornamentation of the elytra vary remarkably in the ample series before me.

A number of specimens collected in Arizona and Southern California are referred to *sparsus*, although the prothorax is almost

completely unstricted near the apex; this character appears however to be quite variable in some species, and especially *frontalis*, in two specimens of which, taken by Mr. Wickham at Greeley, Colorado, one has the prothorax entirely unstricted and the other—a larger female—very distinctly so.

There are several points in the original description of *vittatus* Kirby, which render it quite certain that the *vittatus* of LeConte is not in reality that species, but an entirely different one. The description alluded to states that the body is narrow, clothed with decumbent hoary pile, that the prothorax is punctured with rather large scattered punctures, and that the elytra have three stripes. None of these characters will apply to the *vittatus* of LeConte, which is rather oval of body, sparsely clothed with very short robust hairs, and having the punctures of the pronotum subconfluent; they all apply strictly however to a series of specimens before me, taken at Puget Sound and in various parts of California, and also to the published characters of *poricollis* Mann. They also suit the description of *virgatus* in all but a few minor particulars, such as the apparently longer prothorax with straighter sides of that species.

Some of the names suggested by LeConte will probably have to be changed, because of previous employment, when the genus *Cleonus* is monographically revised, unless the assignment of the various species to different subgenera be considered sufficiently distinctive. The new forms indicated in the table may be described as follows:—

**C. grandirostris.**—Suboval, moderately robust, convex, densely clothed throughout with very short, recumbent squamiform and cinereous pubescence, the punctures not at all concealed. *Head* rather finely, the beak more coarsely, punctate, the punctures rather sparse; beak subequal in length to the prothorax, distinctly carinate, the carina terminating abruptly behind in a large fovea between the eyes. *Prothorax* rather short, one-third wider than long, the apex broadly arcuate, much narrower than the base, the latter rather acutely cuspied in the middle, but slightly oblique thence to the basal angles; sides almost parallel toward base, convergent and slightly sinuate anteriorly; disk with a deep, slightly elongate excavation toward base, not carinate anteriorly, very coarsely, sparsely punctate with the pubescence partially denuded in a broad dark oblique submarginal vitta. *Elytra* twice as long as wide, about one-fourth wider than the prothorax; sides parallel and nearly straight, oblique and nearly straight in apical third or fourth, the apex rather narrowly subtruncate; humeri obliquely rounded to the base of the prothorax; disk with unimpressed series of coarse, very deep, rather distant punctures.

*Abdomen* densely clothed with longer cinereous pubescence and sparsely speckled with rather coarse subdenuded punctures. *Legs* short and but moderately robust. Length 7.5–9.5 mm.; width 3.2–3.6 mm.

New Mexico (Las Vegas and Coolidge); Wyoming (Cheyenne).

A rather isolated species, somewhat resembling *collaris* or *candescens* at the first glance, but distinguished from both by its much shorter less dense vestiture and very coarse punctuation, and from *collaris* in addition, by its much less constricted prothorax and narrower less depressed form. In proportion to the size of the body the beak is larger than in any other of our species.

**C. bicarinatus.**—Short, robust and convex, black throughout, the head and pronotum dull and more pubescent, the elytra polished and in great part glabrous, the vestiture cinereous, short and subsquamiform, forming two narrower and indefinite discal vittæ and a denser marginal line on the pronotum, the elytra pubescent near the base, also feebly on the third interval near the apex, the fifth behind the middle, the ninth throughout, and on the eleventh or marginal interval partially and sparsely. *Head* very finely, densely punctulate, the beak sparsely so and with large, rather densely rugulose punctures; beak robust, dilated at apex, scarcely shorter than the prothorax, broadly carinate toward base and separated from the head by a transverse impression between the eyes. *Prothorax* slightly wider than long, the sides very feebly convergent and nearly straight to apical third or fourth, then more convergent and feebly sinuate to the apex, which is slightly arcuate and scarcely three-fifths as wide as the base, the latter broadly cusped; disk broadly, feebly impressed before the scutellum, feebly subcarinate thence to the apex, finely, strongly, very densely punctulate throughout and with large deep scattered punctures. *Elytra* four-fifths longer than wide, three times as long as the prothorax, and, behind the middle, fully two-fifths wider than the latter, broadly parabolic and distinctly notched at apex, the humeri exposed and slightly tumid; disk with unimpressed rows of rather coarse distant punctures, the series obviously impressed near the suture; each elytron with a short, strongly tumid carina in the middle toward base. Under surface rather densely clothed with long coarse hair, densely speckled on the abdomen with large subdenuded punctures. *Legs* rather short and slender, rugulose, very sparsely pubescent. Length 10.0 mm.; width 4.2 mm.

Texas (near Austin).

A distinct species, not closely related to any other known to me, and notable chiefly for the dense punctuation of the anterior portions of the body, and the short convex polished and almost glabrous elytra which are bicarinate toward base.

**C. lecontei.**—Elongate, suboval, strongly convex, deep black, the integuments extremely sparsely pubescent and polished, except in the narrow



vittæ where the vestiture is white and dense. *Head* finely, the beak more coarsely and both confusedly punctate and subrugulose; beak rather long, subequal in length to the prothorax, distinctly tumid or broadly subcarinate along the middle, the tumid line more sparsely punctate and terminating behind at a feeble transverse impression between the eyes. *Prothorax* about as long as wide, the apex broadly arcuate, much narrower than the base, the latter broadly, strongly cusped in the middle and but feebly oblique thence to the basal angles; sides feebly convergent and almost straight from the base nearly to the apex, then rather more strongly convergent and just visibly sinuate; disk coarsely, not very densely punctate, a rather broad median line almost completely impunctate, the interspaces finely, rather sparsely punctulate, the surface feebly convex except at the basal cusp where it is moderately impressed, also tumid or subcarinate along the middle in apical half, the vestiture forming a dense marginal and a narrower sparser discal vitta on each side. *Elytra* rather distinctly more than twice as long as wide and nearly one-third wider than the prothorax; sides parallel and nearly straight, becoming strongly oblique and nearly straight in apical third, the apex narrowly subtruncate, broadly rounded, and minutely emarginate in the middle; humeri obliquely rounded to the thoracic base; disk with series of rather coarse approximate punctures which become much finer toward apex where also the series become distinctly impressed. *Abdomen* densely clothed with rather long cinereous pubescence. *Legs* rather short and moderately robust, finely, deeply but rather sparsely punctate and somewhat sparsely pubescent. Length 13.0 mm.; width 4.5 mm.

#### Arizona.

This remarkably distinct and beautiful species is represented by a single specimen, formerly a part of the Levette cabinet, and which is without more definite indication of locality than that given above. It is somewhat allied to the Mexican *boucardi* Chev., but the latter has a white vitta between the seventh and eighth striæ, while in *lecontei* this interval is entirely nude, the marginal vitta being abruptly limited by the eighth stria and the lateral margin.

**C. lobigerinus.**—Rather slender and convex, the integuments feebly shining; pubescence dense, cinereous, forming a broad discoidal anteriorly constricted spot—which is narrowly denuded along the middle, and a marginal vitta on the pronotum, also denuded on the second, sixth and eighth elytral intervals and less completely so on the seventh. *Head* rather strongly, transversely impressed between the eyes, the beak rather long, feebly carinate, subequal in length to the prothorax. *Prothorax* nearly as long as wide, the apex broadly, feebly bisinuate, distinctly narrower than the base, the latter strongly, angularly lobed in the middle; sides feebly convergent from base to apex and nearly straight in the male, convergent and feebly sinuate near the apex in the female; ocular lobes long and prominent, extending to the eyes, the vibrissæ very short; disk dull, coarsely, rather densely punctate,

narrowly and deeply impressed in basal third, not carinate anteriorly. *Elytra* from two to two and one-half times longer than wide, scarcely one-fourth wider than the prothorax; sides parallel and nearly straight, oblique behind, the apex narrowly arcuato-truncate and minutely emarginate; humeri narrowly oblique to the base of the prothorax; disk with unimpressed series of rather coarse, deep, moderately approximate punctures. *Abdomen* and legs densely, coarsely pubescent and coarsely speckled with subdenuded punctures. Length 6.4–9.0 mm.; width 2.0–3.0 mm.

Arizona (Peach Springs); Southern California.

The disposition of the vestiture in this species is nearly as in *quadrilineatus*, but the hairs are longer, darker and more plumbeous in color and more shaggy. It differs greatly from the form mentioned in the strong apical lobes of the prothorax with short vibrissæ, in the absence of dorsal carina and denser punctuation of the pronotum, also in its longer beak and smaller and more slender body; in *quadrilineatus* the prothoracic lobes are almost completely obsolete, the vibrissæ being however correspondingly longer. The series before me consists of eight specimens.

**C. circumductus.**—Somewhat slender, moderately convex, suboval, the integuments piceous, feebly shining, the pubescence rather long, moderately dense, shaggy, cinereous, almost evenly distributed and without trace of vittæ except at the sides of the pronotum and elytra, which are rather widely margined with abruptly denser and whiter pubescence. *Head* very feebly, transversely impressed at the base of the beak, the latter short, not carinate, densely, rugulose punctate and much shorter than the prothorax, rather sparsely pubescent. *Prothorax* very slightly wider than long, the apex subtruncate and but little narrower than the base, the latter rather strongly, acutely cusped in the middle; sides feebly convergent from base to apex, feebly and evenly arcuate throughout; disk somewhat coarsely, very densely punctate, the punctures in close mutual contact laterally, slightly separated and with the interspaces rather coarsely, deeply punctulate toward the middle, the pubescence rather sparse and almost completely denuded near the marginal vitta, the basal impression small and feeble; dorsal carina completely obsolete. Scutellum completely invisible. *Elytra* a little more than twice as long as wide and nearly one-third wider than the prothorax; sides straight and parallel, gradually, evenly parabolic in apical third, each elytron with a small apical wisp of denser pubescence; humeri rather abruptly rounded to the base of the prothorax and distinctly exposed; disk with unimpressed series of rather small but deep, somewhat distant punctures, the intervals finely but deeply and very densely punctulate. *Abdomen* black, very densely clothed with long cinereous and somewhat unevenly nucleated pubescence. *Legs* not very robust, extremely short, densely pubescent, the hind femora extending only to the apex of the second segment. Length 7.4 mm.; width 2.5 mm.

## Arizona.

The single specimen represents a distinct species, to be readily known by the peculiar disposition of the vestiture, as well as by the unusual length of the latter, also by the small size, dense punctation and exposed humeri. The elytral vestiture from the marginal vitta to the suture is almost even in distribution, but sparsely speckled with extremely small and feeble denser aggregations of hairs. The ocular lobes of the prothorax are very feebly developed, and the vibrissæ extremely short, coming far from attaining the eyes.

**C. subcylindricus.**—Nearly evenly cylindrical and convex, black throughout, the anterior portions rather dull, the elytra shining; vestiture very short, almost evenly distributed but rather sparse on the elytra except near the lateral margin, where it becomes broadly dense both on the elytra and prothorax. *Head* and beak not coarsely and moderately densely, deeply punctate, the interspaces finely, deeply and very densely punctulate; beak short, robust, scarcely more than two-thirds as long as the prothorax, almost completely glabrous, not carinate. *Prothorax* about as long as wide, the sides feebly arcuate, more convergent anteriorly, the apex about three-fourths as wide as the base, broadly bisinuate; base obtusely cusped in the middle; ocular lobes short and wide, the vibrissæ extremely short, widely distant from the eyes; disk somewhat coarsely, sparsely and unevenly punctate, the interspaces finely but deeply and extremely densely punctulate and dull; surface almost completely glabrous except near the sides, not carinate, the basal impression broad, extremely feeble and scarcely traceable. Scutellum not distinct. *Elytra* quite distinctly more than twice as long as wide and but just visibly wider than the prothorax; sides parallel and almost straight, rather broadly, obliquely arcuate behind, the apex rather narrowly parabolic and minutely emarginate; humeri obliquely, feebly rounded; disk with unimpressed series of not very coarse, moderately distant punctures, the intervals very finely but densely punctulate. *Abdomen* rather sparsely and unevenly clothed, finely punctulate, also with slightly larger widely scattered punctures. *Legs* rather short, somewhat sparsely punctured and pubescent, the hind femora very much longer than the tibiæ. Length 10.5 mm.; width 3.8 mm.

## Florida.

This species is closely allied to *texanus* but differs in its more robust form, larger prothorax, the latter being more finely punctured and much more nearly equal in width to the elytra, in its uncompressed beak, more developed ocular lobes and much shorter vibrissæ, and in its shorter and less pubiform vestiture.

In common with nearly all of the robust Cleonini, each elytral

interval has a single series of small distant punctures, especially visible toward base.

**C. graniferus.**—Cylindrical, convex, black, moderately shining, the vestiture consisting of small recumbent robust hairs, rather sparse on the elytra but denser in narrow feeble vittæ occupying the alternate intervals especially toward apex, also dense in a broader marginal vitta on the pronotum and elytra. *Head* finely punctured, very sparsely along the middle where there is a deep elongate fovea between the eyes; beak robust, parallel, cylindrical, extremely short, scarcely more than one-half as long as the prothorax, sparsely punctured, not at all carinate but broadly tumid along the middle, separated from the head by a deep arcuate transverse groove just before the eyes; surface almost glabrous, narrowly, feebly impressed and rugulose along the sides of the tumid portion, and with a deep elongate median fovea between the antennæ; scape of the latter very short, not more than one-half as long as the remainder, the scrobes strongly convergent beneath but widely separated at apex. *Prothorax* nearly as long as wide, the apex broadly arcuate, four-fifths as wide as the base, the latter broadly, feebly cusped and feebly bisinuate; sides very feebly, evenly arcuate throughout; disk nearly glabrous except along the sides, not at all impressed except feebly along the basal margin, not carinate, densely covered with small irregular shining tubercles or granules. *Scutellum* small but distinct. *Elytra* nearly two and one-half times as long as wide, just visibly wider than the prothorax; sides parallel and nearly straight; broadly parabolic and minutely notched at apex; humeri feebly oblique; disk finely, densely punctulate, coarsely tuberculose and rugulose toward base, with unimpressed series of deep moderately coarse punctures. *Abdomen* densely, finely punctate, rather sparsely clothed with much longer pubescence. *Legs* short, not very stout, rather sparsely punctate and pubescent, the femora strongly emarginate beneath near the apex. Length 12.0 mm.; width 3.8 mm.

Georgia.

The prosternum is deeply, broadly emarginate anteriorly, the ocular lobes being moderately developed and fringed with very short vibrissæ, which come far from attaining the eyes. This species differs from any other in our fauna in its peculiar sculpture and very short robust beak, as well as in the structure of the antennæ; it might for these reasons be quite appropriately placed in a separate subgenus.

#### LIXUS Fabr.

Eliminating *modestus* Mann. (*pleuralis* Lec.) and *texanus* from our representatives as tabulated by LeConte (Proc. Am. Phil. Soc., XV, p. 154), and transferring them to *Cleonus*, with which they

agree much more satisfactorily in general organization and particularly in the structure of the antennal funicle, the remaining species constitute a very homogeneous assemblage, distinguishable at once from *Cleonus* by the longer more slender cylindrical and less pubescent beak, in which the modifications due to sex are much more apparent than in the latter genus. In some species, such as *macer* and *sexualis*, this sexual difference in length is extremely conspicuous, the male rostrum being scarcely more than two-thirds as long as that of the female.

The antennæ vary considerably in structure and afford one of the most satisfactory characters for the subordinate grouping of the species, as the relative length of the second funicular joint appears to be affected but slightly by the sex of the individual; in the position of the antennæ, however, the sexes differ quite noticeably, the point of insertion being almost invariably nearer the apex in the male than in the female.

In the following table it has been my endeavor to outline natural groups of species, even when definable only by general characteristics of bodily form or of pronotal sculpture, which may prove more or less difficult to seize upon. It should also be stated that I have been reluctantly compelled to make an unusual number of changes and emendations in the work of Dr. LeConte which, as in the case of *Cleonus*, was apparently founded upon far too slender material.

- Elytra prolonged at apex in rather acute and more or less everted processes ;  
species homologous with the European *iridis* Oliv. ....2
- Elytra without elongated and everted apical processes .....3
- 2—Body broadly oval, black throughout, the antennæ paler and with the  
first funicular joint very short, not as long as the third and fourth com-  
bined .....1 **caudifer**
- Body narrowly oval and more convex, more or less rufescent, the first funi-  
cular joint more elongate and fully equal to the third and fourth.
- Ventral segments not angularly produced posteriorly at the sides.  
2 **auctus**
- Ventral segments two to four abruptly, acutely angulate behind at the sides.  
3 **rubellus**
- 3—Second funicular joint short, slightly shorter than the next two combined ;  
scape very long, subequal to the entire remainder; general form robust,  
parallel, the sculpture scabrous, the pronotum broadly impressed.  
4 **asper**
- Second funicular joint moderately elongate, subequal in length to the next  
two combined.....4

- Second funicular joint slender, distinctly longer than the next two together ; vestiture more or less finely mottled .....11
- 4**—Elytra with a narrow, abruptly limited, densely pubescent and conspicuous marginal or submarginal vitta ; beak completely non-carinate .....5
- Elytra generally not at all vittate, but having the vestiture sometimes condensed laterally and forming a broad feebly defined vitta .....6
- 5**—Pronotum with a small but distinct impression before the scutellum.  
Lateral vitta of the elytra broad and less dense, not concealing the striae punctures .....5 **placidus**  
Lateral vitta narrow and exceedingly dense ; form narrower, the pronotal punctuation coarser, deeper and more rugulose .....6 **amplexus**  
Pronotum completely unimpressed, smaller species.  
Beak finely but strongly, moderately densely punctate, nearly straight.  
**7 oregonus**
- Beak finely feebly and extremely sparsely punctate.  
Beak very feebly arcuate ; prothorax much wider than long ; body rather broadly oval .....8 **eximius**  
Beak strongly arcuate ; prothorax subquadrate ; body slender, convex and linear .....9 **tenellus**
- 6**—Form short, broad and more or less oval, the elytra never more than twice as long as wide ; small species .....7  
Form elongate, generally subparallel, the elytra distinctly more than twice as long as wide .....8
- 7**—Beak finely and feebly but distinctly subcarinate ; elytra with a strong parallel-sided scutellar impression .....10 **marginatus**  
Beak not at all carinate.  
Pronotum more or less broadly impressed throughout the length.  
**11 musculus**  
Pronotum feebly impressed toward base but not before the middle and with coarse, sparsely placed punctures.  
Broadly oval, the vestiture longer, denser and somewhat pubiform.  
**12 parvus**  
Narrowly oval, the vestiture very short, sparse .....13 **pygmæus**
- 8**—Pronotum broadly flattened and impressed throughout the length or nearly so, the impression always becoming deeper toward base ; rather large species .....9  
Pronotum unimpressed or impressed only near the base ; small or moderately large species .....10
- 9**—Basal joint of the funicle as long as the second ; dorsal impression of the pronotum extending throughout the length but becoming very feeble toward apex.  
Rather slender, the beak very slender, differing notably in the sexes, and, in the female, much longer than the prothorax .....14 **concavus**  
Somewhat robust, the beak stout, finely and feebly but rather distinctly subcarinate, differing but little sexually and subequal in length to the prothorax .....15 **mucidus**

- Basal joint of the funicle distinctly shorter than the second; pronotal impression rather deep and distinctly limited, large, wide and extending to apical fourth; beak in the female but very slightly longer than the prothorax .....16 **soror**
- 10**—Beak finely but strongly, very densely punctate throughout.  
Pubescence throughout very dense and rather long, pale ochreo-cinereous in color and concealing the punctuation of the beak from base to apex, the beak not at all carinate .....17 **laramiensis**
- Pubescence very short, rather sparse, not concealing the punctuation of any part; beak with a distinct median carina.  
Elytra with apical tufts of long dense pubescence.....18 **mixtus**  
Elytra devoid of apical pubescent tufts .....19 **sobrinus**
- Beak finely, sparsely punctulate, and, toward base and on the head, with large deep scattered punctures; pronotal punctures very coarse and sparsely distributed; prothorax with a small feeble ante-scutellar impression and more or less strongly constricted at the apex.  
Vestiture on the elytra strongly mottled throughout, often broadly sparser along the middle of each elytron but not forming a lateral vittiform line. Beak very long and slender, fully as long as the prothorax in the male and longer in the female.....20 **sylvius**  
Beak shorter and much more robust, distinctly shorter than the prothorax in both sexes .....21 **scrobicollis**
- Vestiture of the elytra more or less mottled toward the suture but forming a broad, rather definite lateral condensation, which is joined at apical fifth or sixth by a very short narrow vitta on the third interval; beak very slender, nearly as long as the prothorax in both sexes; body slender .....22 **perforatus**
- Vestiture not at all mottled, forming a broad well-defined submarginal vitta, which is joined at apical sixth by a narrow distinct vitta occupying the entire length of the third interval; fifth interval also feebly vittate; beak short and robust in both sexes, much shorter than the prothorax; body more robust .....23 **semivittatus**
- 11**—Color black throughout.....12
- Color rufo-testaceous, the elytral apices distinctly produced and rounded or subangulate; pronotum longitudinally impressed throughout.....13
- 12**—Elytra constricted at the sides just behind the basal angles; beak very long .....24 **macr**
- Elytra not constricted at base; beak moderate.  
Humeral angles prominent and tumid, the elytral width notably greater than that of the prothorax.....25 **jülichi**
- Humeral angles obsolete, the elytra at base not wider than the prothorax.  
Prothorax not wider than long, conical, the pronotum narrowly and feebly impressed throughout the length, deeply so at base. ....26 **luculentus**
- Prothorax wider than long, only impressed near the base.  
Beak very sparsely punctate; scattered punctures of the pronotum coarse .....27 **nitidulus**

Beak densely punctured; scattered pronotal punctures fine.

Body narrow, densely pubescent, the vestiture finely, strongly mottled and with a larger subdenuded spot on each elytron near the suture and just behind the middle; beak with a deep inter-antennal fovea, without impunctate median line .....28 **fossus**

Body rather robust, elongate-elliptical, the vestiture scarcely at all maculate, plumbeus, very short and not so conspicuous; beak without trace of inter-antennal fovea, less densely punctured and with a narrow distinctly defined median impunctate line.

29 **obesulus**

**13**—Pronotal punctuation sparse throughout; beak in the female shorter than the prothorax; punctures of the elytral series rather fine and distant.....30 **terminalis**

Pronotal punctuation very dense, rather sparser toward the apex; beak in the female longer than the prothorax; serial punctures of the elytra very coarse and rather close-set; size much smaller; elytral apices more rounded.....31 **sexualis**

1 **L. caudifer** Lec.—Proc. Am. Phil. Soc., XV, p. 156.

Indiana, Illinois and Iowa, also said by LeConte to occur in British Columbia. A fine species of the *iridis* type, much broader in outline than *auctus* and *rubellus*, densely clothed with short plumbeo-cinereous pubescence and with a rather short and slender beak. Length 10.0–13.0 mm.; width 3.2–4.0 mm.

2 **L. auctus** Lec.—Pac. R. R. Rep.; Insects, p. 57; Proc. Am. Phil. Soc., XV, p. 155.

Oregon. The original female type is, as far as I know, the only representative. It approaches the European *iridis* more closely than either of our other species of this group, but still departs widely from it in its much more elongate and longitudinally impressed prothorax. The integuments are dark piceous in color, the beak, legs and antennæ rufo-ferruginous, the vestiture very short and coarse, moderately dense on the elytra. The prothorax is very nearly as long as wide. Length 11.5 mm.; width 3.0 mm.

3 **L. rubellus** Rand.—Bost. Journ. Nat. Hist., II, p. 41; Lec.: Proc. Am. Phil. Soc., XV, p. 155.

Massachusetts to Wisconsin. Much smaller than the others of this small group and easily distinguished by its bright red-brown color and sparse, feebly mottled vestiture.

The abdominal sutures being strongly, posteriorly angulate at the sides in this species and almost perfectly straight throughout



in another so closely allied as *auctus*, affords another instance, if further proof were necessary, of the comparatively slight value possessed by this character, and to indicate the propriety of uniting the Anthonomini and Tychiini, which are at present separated mainly upon this character, but in which the mutual similarity in all other structural features, including habitus, is so pronounced. Length 7.5–9.6; width 2.2–2.8 mm.

4 **L. asper** Lec.—Proc. Am. Phil. Soc., XV, p. 156.

Southern California. This species is somewhat isolated and constitutes a small section, characterized by the rather shorter second funicular joint which is scarcely as long as the next two together, and by the unusually long slender scape. The form is rather robust and subcylindrical, and the pronotum is broadly impressed along the middle, finely, roughly sculptured and sparsely tuberculose toward the sides, especially in the female. Length 11.4–13.5 mm.; width 4.0–4.5 mm.

5 **L. placidus** Lec.—Proc. Am. Phil. Soc., XV, p. 159.

Colorado—LeConte. Easily recognizable in the small section to which it belongs by its comparatively large size, and the other characters given in the table. Length 9.3 mm.; width 3.1 mm.

6 **L. amplexus** n. sp.—Rather slender, convex, cylindrical, black and polished throughout, the antennæ rufescent; pubescence very short, sparse, feebly, sparsely nucleated on the elytra, the lateral vitta of the pronotum and elytra continuous, narrow, extremely dense and pure white. *Head* and beak finely, not very densely punctate, the punctures fine and with others slightly coarser, with a deep rounded fovea between the eyes and another, much elongated, between the antennæ; beak cylindrical, feebly arcuate, rather stout, about three-fourths as long as the prothorax. *Prothorax* very nearly as long as wide, the sides nearly parallel and just visibly arcuate to apical fourth, then more convergent and feebly constricted to the apex, which is truncate and about three-fifths as wide as the base, the latter transverse, feebly but abruptly lobed in the middle; disk with a small but deep and distinct ante-scutellar impression, coarsely, deeply, rather closely and unevenly punctate, the interspaces polished, finely, sparsely punctulate. *Elytra* a little more than twice as long as wide, two and one-half times as long as the prothorax, and, in basal two-thirds, equal in width to the latter, the sides convergent and nearly straight in apical third, the apex acutely ogival and minutely, feebly notched; disk with unimpressed series of rather large distant punctures, the scutellar impression large and distinct. *Abdomen* rather finely, unevenly and closely punctured but strongly shining through the

short fine and rather sparse but evenly distributed vestiture. *Legs* short and robust, strongly punctato-rugulose, very sparsely clothed with short fine hairs. Length 8.2 mm.; width 2.5 mm.

Florida.

Rather closely related to *placidus*, but slightly smaller and more slender, and readily distinguishable by the coarser pronotal punctation, the more marked scutellar impression, and, especially, by the nature of the submarginal vitta which is here narrow and extremely dense; in *placidus* the vitta is nearly twice as wide, and formed of pubescence which is much less densely placed, not concealing the punctures of series seven to nine which traverse it.

In *placidus* ten series of punctures can easily be counted on each elytron, while in *amplexus* there appear to be but nine.

**7 L. oregonus** n. sp.—Moderately robust, convex, elongate-oval; body, beak and legs black, the antennæ dark rufo-testaceous; integuments polished throughout, the vestiture very dense and moderately long in the lateral vitta of the pronotum and elytra, elsewhere very short and sparse, forming a broad subsutural and narrow median vitta on each elytron, and rather broadly denuded near the lateral vitta and along a narrow median line on the pronotum. *Head* finely, sparsely punctate, with a small interocular fovea; beak short but rather slender, scarcely more than three-fourths as long as the prothorax, cylindrical, nearly glabrous, very finely, sparsely punctate, the scrobes extending but slightly beyond the middle. *Prothorax* slightly wider than long, the apex truncate, the base broadly, not strongly angulate in the middle; sides rather strongly convergent from base to apex, feebly arcuate, slightly swollen near apical third; disk finely, rather densely punctulate and with rather coarse, somewhat sparse punctures. *Elytra* not more than twice as long as wide, scarcely perceptibly wider than the prothorax, somewhat obtusely rounded at apex; sides parallel and nearly straight; disk feebly flattened near the scutellum and also with a small intrahumeral impression, having completely unimpressed series of somewhat coarse and rather distant punctures, which become much finer toward apex, the intervals excessively minutely, not densely punctulate. *Abdomen* rather densely clothed with longer pubescence which becomes very dense along the sides. *Legs* short, rather robust, sparsely pubescent, the femora with a small spot of dense white pubescence near apical third. Length 7.0 mm.; width 2.4 mm.

Oregon.

Represented by a unique specimen of undetermined sex, very kindly given me by Mr. W. Jülich. Although belonging near *placidus*, *oregonus* is immediately distinguishable by the peculiar arrangement of the elytral vestiture, the unimpressed and more transverse prothorax and small size.

8 **L. eximius** n. sp.—Almost evenly elliptical, rather convex, black throughout, the antennæ rufescent with the club dusky; integuments strongly shining; pubescence dense in the lateral vitta of the prothorax and elytra, elsewhere very short, sparse and rather inconspicuous. *Head* convex, very finely, sparsely punctate, with a small deep circular interocular puncture; beak slender, cylindrical, not very arcuate, but little shorter than the prothorax, almost completely impunctate, glabrous, the scrobes extending scarcely to the middle, the antennæ inserted at two-fifths from the base. *Prothorax* fully one-third wider than long, the apex three-fifths as wide as the base, the latter very broadly, feebly angulate; sides convergent from base to apex, feebly arcuate, rather distinctly swollen at apical third; disk evenly, transversely convex, minutely, somewhat closely punctulate and with rather widely scattered moderately coarse punctures. *Elytra* scarcely wider than the prothorax, twice as long as wide, evenly, rather strongly rounded behind, with a minute sutural emargination; sides parallel and nearly straight in basal two-thirds; disk with unimpressed rows of coarse rather distant punctures, the series becoming strongly impressed near the apex; intervals extremely minutely, feebly, sparsely punctulate; scutellar impression very short and feeble. *Abdomen* rather strongly but sparsely punctate, sparsely clothed with longer hair which becomes dense along the sides toward apex. *Legs* short, stout, sparsely pubescent, the femora with a very small tuft of white hair near apical third. Length 5.3 mm.; width 1.8 mm.

Texas (near Austin).

This is one of our smallest species, and is notably distinct because of its almost evenly elliptical form, lateral vitta, smooth impunctate beak and subbasal insertion of the antennæ. It is represented before me by a single specimen, probably a female.

9 **L. tenellus** n. sp.—Slender, subcylindrical and convex, polished, black throughout, the tarsi and antennæ rufous with the club of the latter dusky; vestiture dense in the lateral thoracic and elytral vitta, elsewhere very short and sparse, broadly denuded along the lateral vitta and throughout the median parts of the pronotum, also broadly subdenuded along the middle of each elytron. *Head* convex, very finely, sparsely punctate, with a minute interocular fovea; beak almost as long as the prothorax, strongly arcuate, slender, cylindrical, finely but strongly, extremely sparsely punctate, the antennæ slender, inserted just behind the middle, the scrobes just attaining the middle. *Prothorax* almost as long as wide, cylindrical, the base very feebly, broadly lobed, sides parallel and nearly straight, convergent near the apex, the latter truncate; disk finely, rather sparsely punctulate, also very coarsely, somewhat closely punctato-foveate, a narrow median line impunctate. *Elytra* nearly two and one-half times as long as wide, three times as long as the prothorax and scarcely perceptibly wider than the latter; sides parallel and straight, narrowly parabolic at apex; disk with unimpressed rows of moderately coarse, not very distant punctures which become much smaller toward apex, where also the first and second series become slightly impressed;

intervals extremely minutely, feebly punctulate; scutellar impression very feeble. *Abdomen* rather closely but feebly punctato-rugulose, with widely scattered coarser punctures toward base, sparsely clothed with rather long hair, denser laterally toward apex. *Legs* short and decidedly slender, very sparsely pubescent. Length 5.8 mm.; width 1.6 mm.

Texas (Fort Worth).

The slender cylindrical form, very arcuate beak, lateral vitta and small size of this species are characters which will render it easily identifiable. It is not closely comparable with any other known to me. One specimen.

10 **L. marginatus** Say.—Descr. of Curc. of N. Am., p. 13; *sylvius* Lec. nec Boh.: Proc. Am. Phil. Soc., XV, p. 156.

Pennsylvania—LeConte; Iowa. The description of Say applies almost completely to the species identified by LeConte as *sylvius* Boh., and, as Boheman's description of *sylvius* will not answer at all for this form, especially in the elongate form of the body, very long beak and remote coarse variolate pronotal punctuation, there can be but little doubt that the synonymy proposed is correct. *Marginatus* is a small species; rather robust and elliptical in outline, with the vestiture sparse and more or less mottled above, longer on the abdomen where it is very dense and conspicuous along the lateral margins of the last three segments. The scutellar impression of the elytra is large, deep and conspicuous, this character being especially alluded to by Say both in his diagnosis and description. Length 6.7–8.2 mm.; width 2.3–3.0 mm.

11 **L. musculus** Say.—Descr. of Curc. of N. Am., p. 14; *punctinatus* Lec.: Proc. Am. Phil. Soc., XV, p. 157.

New Jersey to Texas and Colorado. Varies considerably in size and somewhat also in the degree of acuteness of the elytral apices. The form is rather stout and elongate-oval, moderately shining, the prothorax short, transverse and more or less impressed in the middle throughout the length, the vestiture short, not very dense and more or less feebly mottled on the elytra. The type of *punctinatus* is a small male of this species. Length 7.5–10.8 mm.; width 2.8–3.9 mm.

12 **L. parvus** Lec.—Proc. Am. Phil. Soc., XV, p. 157.

California (San Francisco); not common. Resembles *marginatus* in its robust elliptical outline but is still shorter and broader,

and with obsolete scutellar impression of the elytra; the abdomen is not margined at the sides with denser pubescence. Length 6.5–6.8 mm.; width 2.5 mm.

13 **L. pygmæus** n. sp.—Elongate, elliptical, moderately slender, convex, polished, black throughout, the tarsi rufo-piceous; antennæ rufous with darker club; vestiture short, sparse, feebly mottled on the elytra. Head convex, finely punctate; beak slender, cylindrical, strongly arcuate, finely, densely punctate, more strongly so in the male, in the latter sex very short, not quite as long as the prothorax, much longer in the female, the scrobes extending rather beyond apical third in both sexes. Prothorax short, one-half to two-thirds wider than long, the base much wider than the apex and broadly, feebly cusped in the middle; apex truncate; sides strongly convergent from base to apex and rather strongly arcuate; disk with a small feeble basal impression, finely, feebly, sparsely punctulate and with coarse remote variolate punctures, denser at the sides where there is a very narrow feebly marked line of denser pubescence. Elytra twice as long as wide, just visibly wider than the prothorax, rather narrowly parabolic at apex; sides parallel and very slightly arcuate especially behind; disk with a broad and feeble scutellar impression and with completely unimpressed rows of distant punctures, which are coarse toward base but gradually very fine toward apex; intervals extremely minutely, feebly, sparsely punctulate. Abdomen more densely clothed with longer hair. Legs short but rather slender, sparsely pubescent. Length 5.0–6.2 mm.; width 1.8–2.2 mm.

Kansas.

The single pair before me indicates a species somewhat allied to *musculus*, but with more arcuate and less densely punctured beak and more coarsely and remotely punctured pronotum, the latter being only impressed near the base; the size is very much smaller, it being in fact the smallest species known to me from our fauna.

14 **L. concavus** Say.—Descr. Curc. N. Am., p. 14; *rectus* Lec.: Proc. Am. Phil. Soc., XV, p. 158 (♀).

New York to Idaho. A rather large species, not very densely and nearly evenly clothed with very short robust hairs, and generally densely covered with yellow pollen. The prothorax is broadly impressed along the middle, strongly so near the base, and is from one-third wider than long to nearly as long as wide. The beak is rather longer than the prothorax in the male and much longer in the female, the antennæ inserted at apical third. The female, although larger than the male, is relatively more slender, and the type of *rectus* is an unusually small specimen of the former sex, in which the prothorax is only slightly wider than long, but com-

pletely similar in every other detail of structure. The male associated with the female type of *rectus* is a normal male of *concausus*. Length 9.5–13.8 mm.; width 3.0–4.6 mm.

15 **L. mucidus** Lec.—Proc. Am. Phil. Soc., XV, p. 158; *cinerarius* Dej. Cat.: 3 ed., p. 296.

Indiana; Illinois. This species is about as long as *concausus* and distinctly more robust, also with a shorter, stouter beak, in which the sexual differences are much less pronounced. The vestiture is cinereous, extremely short, moderately dense, almost evenly distributed and squamiform, and it may be distinguished at once from *concausus*, not only by this character, but by the feebly elevated rostral carina. The prothorax is almost identical in outline with that of *concausus* but is a little shorter. Length 12.0–15.3 mm.; width 3.8–5.2 mm.

16 **L. soror** n. sp.—Rather robust and convex, parallel, moderately shining, black throughout, the antennæ piceous; vestiture yellowish, dense, feebly, coarsely mottled on the elytra, very short, somewhat dense, squamiform; surface densely pollenose. *Head* and beak finely but strongly, evenly, moderately densely punctate, the beak in the female slender, rather arcuate, cylindrical, shining, very slightly longer than the prothorax, the antennæ inserted at two-fifths from the apex. *Prothorax* one-fourth wider than long, the apex truncate, three-fifths as wide as the base, the latter broadly, distinctly, angularly lobed or cusped in the middle; sides visibly convergent and feebly arcuate from the base, rather abruptly narrowed or constricted in apical fourth; disk with a large deep ovoidal impression extending from the base to apical fourth, the sculpture feebly rugulose and consisting of moderately coarse and finer punctures densely intermingled, the pubescence denser laterally and in the depression. *Elytra* more than twice as long as wide and between three and four times as long as the prothorax, subequal in width to the latter, rather obtusely ogival and minutely notched at apex; sides parallel, nearly straight; disk broadly, strongly impressed in the middle at base, having rows of moderately coarse distant punctures, the intervals minutely, densely, indistinctly punctulate. *Abdomen* rather densely clothed with longer pubescence. *Legs* short but not very robust, sparsely clothed with short pubescence. Length 10.5 mm.; width 3.6 mm.

Montana (Helena). Mr. H. F. Wickham.

Allied to *concausus* but diverging in many decisive characters, among which may be mentioned the shorter beak of the female and the difference in form, depth and extent of the pronotal impression.

17 **L. laramiensis** n. sp.—Rather stout, parallel, somewhat depressed above along the middle, black throughout, the antennæ scarcely paler; integu-

ments almost completely concealed by the extremely dense vestiture, which is pale yellowish in color and rather long throughout. *Head* and beak extremely densely clothed throughout, when denuded minutely and densely punctate, the beak in the male a little shorter, in the female distinctly longer, than the prothorax, in the latter sex often denuded in apical half, cylindrical, feebly arcuate, not in the least carinate, the antennæ inserted near apical third (male), or just before the middle (female). *Prothorax* but slightly wider than long, the apex feebly arcuate, scarcely more than one-half as wide as the base, the latter almost transverse, very feebly lobed in the middle; sides strongly convergent from base to apex and rather strongly, evenly arcuate, sometimes feebly constricted near the apex in the female; disk with a rather large and deep basal impression, minutely, extremely densely punctulate and with rather coarse, widely and very unevenly dispersed punctures, the entire sculpture including the punctures almost completely concealed by the vestiture. *Elytra* distinctly more than twice as long as wide, about three times as long as the prothorax and nearly one-fourth wider than the latter, the humeri oblique; sides parallel and straight; apex broadly rounded, minutely notched; disk with unimpressed rows of not very coarse, rather distant punctures. *Abdomen* very densely, evenly clothed with long hair, sparsely speckled toward base with subdenuded punctures, each bearing a longer and coarser seta. *Legs* moderately long and stout, very densely clothed throughout. Length 9.0–11.8 mm.; width 3.0–4.0 mm.

#### Wyoming.

This species is represented before me by a large series from several localities in Wyoming, and is apparently plentiful but local; it is commonly confused in cabinets with *mixtus*, a widely different species with strongly carinate beak.

18 **L. mixtus** Lec.—Proc. Am. Phil. Soc., XV, p. 416.

Colorado—LeConte. I have but little to add to the full and satisfactory original description; the prothorax, however, is stated to be "scarcely longer than wide," whereas it is not quite as long as wide; this overstatement of the relative length of the prothorax seems to be a constant personal equation in most of Dr. LeConte's descriptions, and due allowance must be made for it in identifications. *Mixtus* is a remarkable species, represented as far as known to me by the unique specimen in the LeConte cabinet; the pubescence forms a broad and rather well-defined marginal vitta along the prothorax and elytra. Length 10.0 mm.; width 3.2 mm.

19 **L. sobrinus** n. sp.—Rather slender and convex, somewhat shining, black throughout, the antennæ dark rufous, the club dusky; vestiture sparse, forming a dense lateral pronotal vitta and also somewhat broadly condensed along the sides of the elytra, on the disk of the latter sparse, very short and

squamiform, with small and widely dispersed denser nuclei, fine and evenly distributed on the median parts of the pronotum, cinereous throughout. *Head* and beak very sparsely pubescent, finely but very deeply and strongly, densely punctate, the beak very short, scarcely three-fourths as long as the prothorax, slightly arcuate, distinctly flattened above and with an extremely fine and feeble median carina in basal two-thirds; antennæ inserted just beyond the middle, the scrobes extending rather beyond apical third. *Prothorax* but little wider than long, the apex subtruncate, nearly two-thirds as wide as the base, the latter broadly and obtusely angulate; sides distinctly convergent from the base to apical fourth, the apex slightly constricted; disk very densely, rather strongly punctulate and also somewhat densely, moderately coarsely punctate, feebly, narrowly impressed in the middle toward base. *Elytra* between two and three times as long as wide, three times as long as the prothorax, and, behind the middle, a little wider than the latter; sides subparallel, the apex gradually somewhat narrowly rounded and with a distinct angulate sutural notch; disk feebly impressed in the middle toward base, with unimpressed rows of deep, rather distant punctures which are coarse toward base but fine near the apex. *Abdomen* with longer hair, denser on the last three segments. *Legs* short but not very stout, sparsely pubescent, the femora subannulate with longer and denser pubescence at apical third. Length 7.8 mm.; width 2.4 mm.

#### Texas.

A rather small species allied to *mixtus*, but differing in its narrower form, convergent sides of the prothorax and finer, denser, less variolate punctuation of the pronotum. In *mixtus* the sides of the prothorax are parallel and rather distinctly arcuate, the apex being rather abruptly and strongly constricted, somewhat as in *sylvius* and *scrobicollis*; the elytral vestiture is long and hair-like, with intermixed erect setæ in that species, while in *sobrinus* it is very short, sparser and squamiform, without trace of intermixed setæ. The single specimen before me is of uncertain sex, but judging by the short beak, is probably a male.

20 **L. sylvius** Boh.—Sch. Gen. Curc., VII, 1, p. 430; *scrobicollis* Lec. nec Boh.: Proc. Am. Phil. Soc., XV, p. 159.

Kentucky; Georgia; "Carolina et Pennsylvania"—Bohem. A rather small, widely diffused species, readily distinguishable by its very long slender beak, parallel form of body, strongly constricted apex and extremely coarse remote and variolate punctures of the prothorax. In all of these characters it agrees rigorously with the long description of Boheman, who states that in the female the beak is as long as the head and prothorax. The expression "thorace remote profunde varioloso-punctato" could not be applied in any sense



to the species identified by Dr. LeConte as *sylvius*, this, as before stated, being the same as *marginatus* Say. Length 6.8–9.7 mm.; width 1.9–3.0 mm.

The dehiscent elytra, spoken of by Boheman, is an accidental character, and among the specimens before me, I have one which is similar to his type, also a specimen of *laramiensis* in which the elytra become broadly dehiscent in apical fifth or sixth, that species having, normally, only a very small sutural notch.

21 **L. scrobicollis** Boh.—Sch. Gen. Curc., III, p. 84; *lateralis* || Say, Descr. Curc. N. Am., p. 14; *lesicollis* Lec.: Proc. Ac. Nat. Sci. Phila., 1858, p. 78; Proc. Am. Phil. Soc., XV, p. 160.

Virginia; Florida; Texas. This species greatly resembles the preceding, especially in the very coarse variolate punctures and constricted apex of the prothorax, and in size, but departs widely in the much shorter and stouter beak. The beak in both sexes is much shorter than the prothorax and is very much more robust and coarsely punctured than in *sylvius*. Length 6.5–9.5 mm.; width 1.9–3.0 mm.

22 **L. perforatus** Lec.—Proc. Am. Phil. Soc., XV, p. 159.

California (Lake Co., San Francisco, Tehachapi Pass and Yuma). A rather slender species, closely resembling the two preceding in size and many other more important characters. The beak is slender, equal in length to the prothorax in the female and a little shorter in the male. There is a distinctly marked tumid or umbonate spot on the disk of each elytron near apical fifth. The three specimens from Yuma are rather larger than those from the coast regions and probably indicate a varietal form with still longer beak. Length 6.8–10.3 mm.; width 1.9–2.8 mm.

23 **L. semivittatus** n. sp.—Parallel, convex, moderately slender, black throughout, the antennæ scarcely paler, the elytra feebly shining through the dense vestiture which is rather long and pubiform, forming three vittæ on each, the narrow vitta of the third interval always distinct throughout the length, joining the broad submarginal vitta at apical sixth, the vitta on the fifth interval often very feebly defined. *Head* transversely but very feebly impressed between the eyes; beak toward base and the head coarsely, sparsely punctate, the former rather robust, about three-fourths as long as the prothorax in the female and still shorter in the male, very feebly arcuate; antennæ in both sexes inserted at about the middle. *Prothorax* almost as long as wide, subquadrate; sides parallel and feebly arcuate, very strongly and abruptly

constricted in apical fifth, the apex truncate, three-fifths as wide as the base, the latter broadly, obtusely angulate; disk feebly impressed in the middle toward base, finely, rather strongly punctulate, also very coarsely variolate, the punctures sparse; pubescence forming a broad oblique marginal and narrow median vitta. *Elytra* a little more than twice as long as wide, not more than two and one-half times as long as the prothorax and slightly wider than the latter, rather narrowly parabolic at apex, without distinct sutural notch; sides subparallel; disk with feeble scutellar impression, and unimpressed rows of coarse deep rather close-set punctures. *Abdomen* with longer pubescence, denser behind. *Legs* short, moderately slender, somewhat sparsely pubescent, the femora subannulate with denser hairs near the apex, the posterior tibiæ extremely short when compared with the corresponding femora. Length 6.4–8.5 mm.; width 1.8–2.9 mm.

Arizona; Utah.

A good series before me shows that while allied rather closely to *perforatus*, the present species differs conspicuously in the shorter thicker beak, more robust form of the body and different elytral ornamentation, this latter being however an amplification and development of the vague pattern observable in well-preserved examples of *perforatus*. In the latter, even in perfect specimens, the third interval is never vittate except behind the middle and near its point of juncture with the marginal vitta, the fifth never vittate, and the somewhat shorter vestiture is more or less confusedly and strongly mottled toward the sutural parts of the disk; this mottling is never so distinctly observable in *semivittatus* and is generally completely invisible.

24 **L. macer** Lec.—Proc. Am. Phil. Soc., XV, p. 160.

The specimens before me are from Illinois, Kansas, and Utah. *Macer* is a large and conspicuous species, of slender cylindrical form, shining integuments and sparse, finely and distinctly nucleated vestiture which becomes denser along the sides of the upper surface. The beak is longer and more developed than in any of our other species, in the female being nearly twice as long as the prothorax, and it differs also from any other known to me in the basal constriction of the elytra. Length 14.5–18.0 mm.; width 3.8–4.8 mm.

25 **L. jülichii** n. sp.—Rather stout, elongate, subelliptical, moderately convex above, shining, black throughout, the antennæ dull piceo-rufous with blackish club; vestiture very short, squamiform, sparse and more or less finely, sparsely mottled, gradually denser toward the sides of the upper surface and subdenuded near the lateral thoracic vitta. *Head* and beak rather finely but

strongly, sparsely punctate, finely, sparsely pubescent, with a strong interocular fovea; beak cylindrical, somewhat robust, feebly arcuate, fully as long as the prothorax, the antennæ inserted near apical two-fifths, the scrobes extending beyond apical third. *Prothorax* conical, but slightly wider than long, the sides strongly convergent from base to apex and straight; apex truncate, barely three-fifths as wide as the base, the latter broadly, feebly cusped in the middle; disk with a large deep rounded impression in basal two-fifths, finely but strongly punctulate, and with intermixed moderately large deep punctures, the sculpture somewhat rugulose, a narrow median line more or less impunctate. *Elytra* between two and three times as long as wide and about three and one-half times as long as the prothorax, at the tumid humeri much wider than the base of the latter, gradually, acutely ogival and rather narrowly and deeply notched at apex; sides nearly parallel and straight in basal two-thirds; disk with unimpressed rows of rather small widely distant punctures. *Abdomen* somewhat sparsely clothed with much longer pubescence. *Legs* moderate in length, rather sparsely clothed with short coarse hairs, the femora long, feebly annulate at apical third. Length 11.0–11.2 mm.; width 3.4 mm.

New Jersey. Mr. W. Jülich.

The two specimens before me are apparently males, and in the female the beak is probably much longer. This is a conspicuous species, not at all closely allied to any other and recognizable at once by its prominent and tumid humeri, conical, deeply impressed prothorax and gradually, very acutely ogival elytral apex.

26 **L. luculentus** n. sp.—Slender, elongate-elliptical, convex, strongly shining, black throughout, the antennæ, excepting the club, piceo-rufous; vestiture very short, squamiform, sparse, remotely and finely nucleated on the elytra, finer but sparse on the anterior portions and but slightly denser on the flanks of the prothorax. *Head* and beak finely, sparsely punctate, broadly, transversely impressed between the eyes and with a small deep rounded interocular fovea, also another, feebler and more elongate between the points of antennal insertion; beak cylindrical, feebly arcuate, rather slender, shorter than the prothorax in both sexes; antennæ inserted a little beyond the middle. *Prothorax* conical, scarcely perceptibly shorter than wide, the sides strongly convergent from base to apex and broadly, feebly, evenly arcuate; apex truncate, three-fifths as wide as the base, the latter broadly, rather feebly cusped; disk rather feebly, narrowly impressed in the middle throughout the length, the impression becoming very deep near the base, minutely, not very densely punctulate and also sparsely and more coarsely punctate, the larger punctures comparatively fine. *Elytra* more than twice as long as wide, about three times as long as the prothorax and just visibly wider than the latter, rather abruptly but narrowly parabolic at apex and with a small broadly angulate sutural notch; sides parallel and straight, becoming very feebly arcuate toward base; disk with unimpressed rows of

moderately coarse, deep, widely but unevenly spaced punctures, each elytron with a more distinct median subdenuded area just behind the middle. *Abdomen* mottled with dense and sparse patches of long white pubescence. *Legs* sparsely pubescent, the femora narrowly and densely annulate at apical third. Length 8.4–9.4 mm.; width 2.5–2.7 mm.

Florida (Lake Worth). Mr. W. Jülich.

Rather closely allied to *fossus*, and resembling that species in general form and in the more subdenuded discal spot of the elytra, but differing decidedly in its more slender form, much more elongate and conical prothorax, narrowly impressed in the middle throughout the length, in its shorter, more squamiform, very much sparser and less mottled vestiture, and in the sparse punctuation of the beak in both sexes. A female of this species was placed by LeConte with the unique type of *fossus* under the impression that it might be the female of that species; but, as I have before me both sexes, it is readily seen to be quite different.

**27 L. nitidulus** n. sp.—Moderately slender, convex, elongate-oval, strongly shining, black throughout, the antennæ dull rufo-piceous; vestiture sparse, pubiform on the anterior parts, very short and coarse on the elytra where it is distinctly nucleated or mottled, rather denser near the sides of the body, with a broad subdenuded line bordering the denser lateral vitta and continuous throughout the pronotum and elytra. *Head* and beak rather finely but strongly, sparsely punctured, not transversely impressed between the eyes but with a deep elongate interocular fovea, and another between the antennæ; beak rather long and slender, cylindrical, feebly arcuate, equal in length to the prothorax, with a narrow impunctate median line; antennæ inserted at the middle, the scrobes extending fully to apical two-fifths. *Prothorax* but slightly wider than long, the sides convergent from base to apex, feebly arcuate, and slightly constricted near the apex, the latter truncate, three-fifths as wide as the base which is broadly, feebly cusped in the middle; disk finely, moderately densely, strongly punctulate and with somewhat sparse deep and moderately coarse punctures, the basal impression small but deep, just before the scutellum, the latter indistinct. *Elytra* about three times as long as the prothorax and scarcely at all wider than the latter, nearly two and one-half times as long as wide, rather gradually and narrowly parabolic and broadly feebly notched at apex; sides parallel and straight, the humeri very feebly, longitudinally tumid; disk rather broadly and distinctly impressed in the middle at base, and having rows of coarse deep, rather distant punctures, the series becoming impressed near the apex. *Abdomen* clothed with longer hair, very sparsely except at the sides of the last three segments, where it becomes dense. *Legs* moderate, sparsely clothed with short very fine hair, denser toward the under surface of the femora at apical third. Length 9.3 mm.; width 2.8 mm.

## Indiana?

A single female from the Levette cabinet without definite indication of locality, but probably taken in or near that which is above suggested. The species is quite different from any other which I have seen, although somewhat allied to *jülichii*; it may however be easily distinguished from the latter by its narrower, more convex form, the elytra being subequal in width to the prothorax, and by the very small basal impression of the pronotum.

28 **L. fossus** Lec.—Proc. Am. Phil. Soc., XV, p. 416.

Florida (Enterprise), Mr. Schwarz—Cab. LeConte. The original male type is the only representative known to me. The species is one of a small group of species of peculiar habitus and apparently confined to the peninsula of Florida, although it is quite possible that others exist in Cuba, from which region this peculiar type may have formerly extended northward. The beak is short, scarcely as long as the prothorax, feebly arcuate, more or less flattened above and very densely punctured, without trace of a median impunctate line; the prothorax is distinctly wider than long, with a rather large and very deep basal impression which does not extend at all beyond basal third. Length 8.4 mm.; width 2.6 mm.

29 **L. obesulus** n. sp.—Rather robust, somewhat flattened above, elliptical, very strongly shining, black throughout, the antennæ rufescent toward base; vestiture very short, sparse, plumbeo-cinereous, squamiform, not appreciably denser toward the sides of the body except very slightly so on the flanks of the pronotum, almost evenly distributed on the elytra, the nucleated patches being ill-defined, extremely small and remotely dispersed, the scales subrecumbent and bent downward toward their apices. *Head* and beak rather finely but strongly, somewhat densely punctate, with a feeble transverse impression between the eyes and a small deep interocular fovea; interantennal fovea entirely obsolete; beak robust, feebly arcuate, slightly flattened, not quite as long as the prothorax, with a narrow and well-defined median impunctate line; antennæ inserted near apical third. *Prothorax* conical, nearly one-fourth wider than long, the apex truncate, scarcely more than one-half as wide as the base, the latter strongly, rather narrowly and abruptly cusped in the middle; sides strongly convergent from base to apex, distinctly, almost evenly arcuate throughout; disk with a large deep and somewhat irregular basal impression, which does not extend beyond the middle, finely but strongly, rather closely punctulate and with very sparse punctures which, although decidedly coarser, are still fine. *Elytra* scarcely more than twice as long as wide, fully three times as long as the prothorax, and, in the middle,

nearly one-fourth wider than the latter; apex gradually parabolic in apical third, with a small angulate sutural notch; sides parallel and nearly straight, arcuate and feebly convergent toward base, the humeri very slightly tumid but not prominent; disk with unimpressed series of rather fine distant punctures. *Abdomen* somewhat evenly, moderately densely clothed with longer cinereous hairs and thickly speckled with small subdenuded punctures, each of which bears a short robust seta. *Legs* moderately pubescent, the femora annulate at apical third. Length 10.2 mm.; width 3.5 mm.

#### Florida.

The unique type is a male and represents a species belonging to the same group as *fossus* and *luculentus*. It differs greatly however from either of these in its robust form, and, from *fossus* in addition, by its shorter, sparser, much more squamiform and inconspicuous vestiture, in the impunctate line and obsolete interantennal fovea of the beak, and in its larger size; from *luculentus* it differs also in the entirely basal impression of the pronotum.

30 **L. terminalis** Lec.—Proc. Am. Phil. Soc., XV, p. 157.

Long Island; Indiana; Illinois. A rather common and well-known species, distinguishable by its pale brownish-rufous coloration, polished integuments, sparse, finely, distantly and feebly mottled vestiture and large deep sutural notch at the apex of the elytra, the apices appearing as if produced, and each more or less broadly angulate. The differences alluded to by LeConte, in the lustre and pubescence of the male and female, are not very pronounced. The beak in the male is fully three-fourths as long as the prothorax, and in the female just visibly shorter than the latter. Length 9.3–11.8 mm.; width 3.0–3.5 mm.

31 **L. sexualis** n. sp.—Elongate-suboval, convex, strongly shining, rather pale brownish-rufous in color, the anterior parts often blackish-piceous; vestiture short but not squamiform, very sparse, slightly denser on the flanks of the pronotum and feebly and indefinitely mottled on the elytra. *Head* and beak very finely, moderately densely punctured, the latter more strongly and densely so than the former in the male but not in the female; beak feebly arcuate, cylindrical, short, stout and scarcely three-fourths as long as the prothorax in the male, very slender, one-half longer, and distinctly longer than the prothorax in the female; antennæ inserted distinctly before the middle in both sexes. *Prothorax* very nearly as long as wide, the truncate apex nearly three-fifths as wide as the base, the latter broadly, obtusely and feebly cusped in the middle; sides convergent from base to apex, broadly, almost evenly arcuate, sometimes broadly, feebly